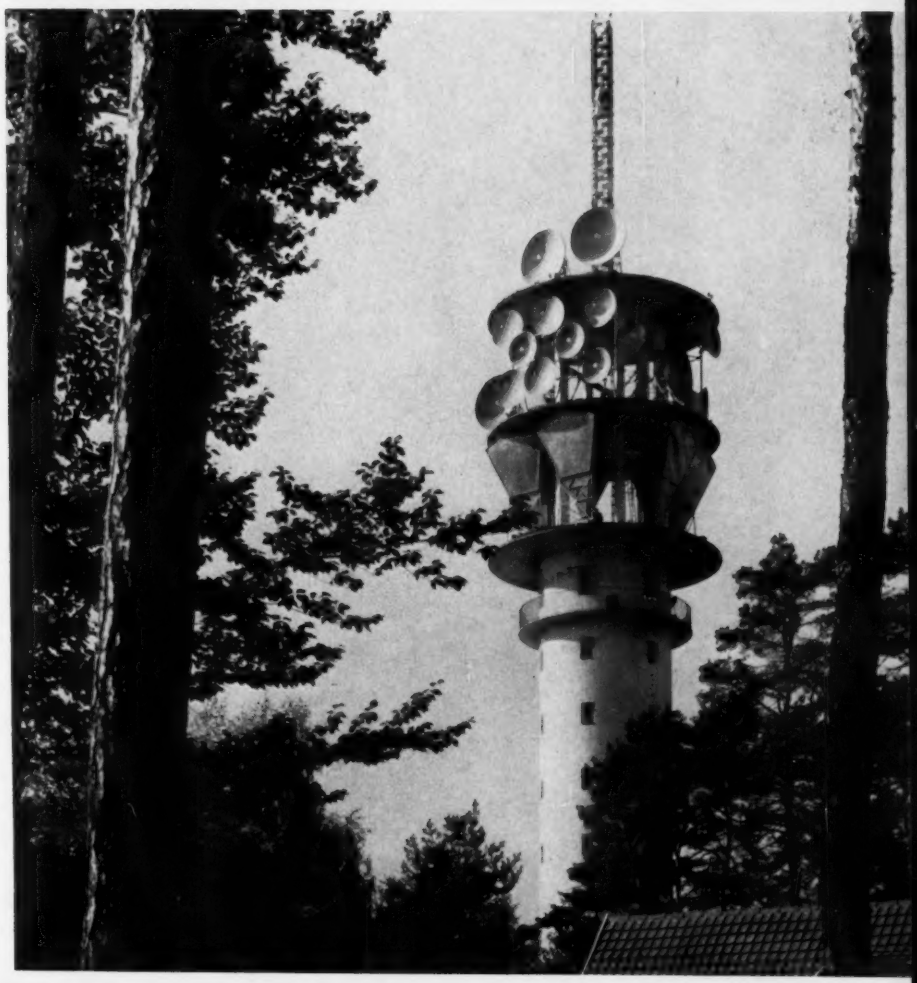
Telephony



A unique microwave repeater station in Stuttgart, Germany. Tower also used for transmitting VHF radio, mobile radio, as well as for future TV programs. See page 25 for story from European correspondent.

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MANAGEMENT · PLANT · TRAFFIC · COMMERCIAL · LEGAL · ACCOUNTING

A development of Orangeburg and Flintkote Research, new *klean-kote* Orangeburg Brand Fibre Conduit has a tough non-brittle protective coating for cleaner, safer handling. Ask your wholesaler to show you a length. klean-kote* **ORANGEBURG® BRAND *Fibre Conduit***

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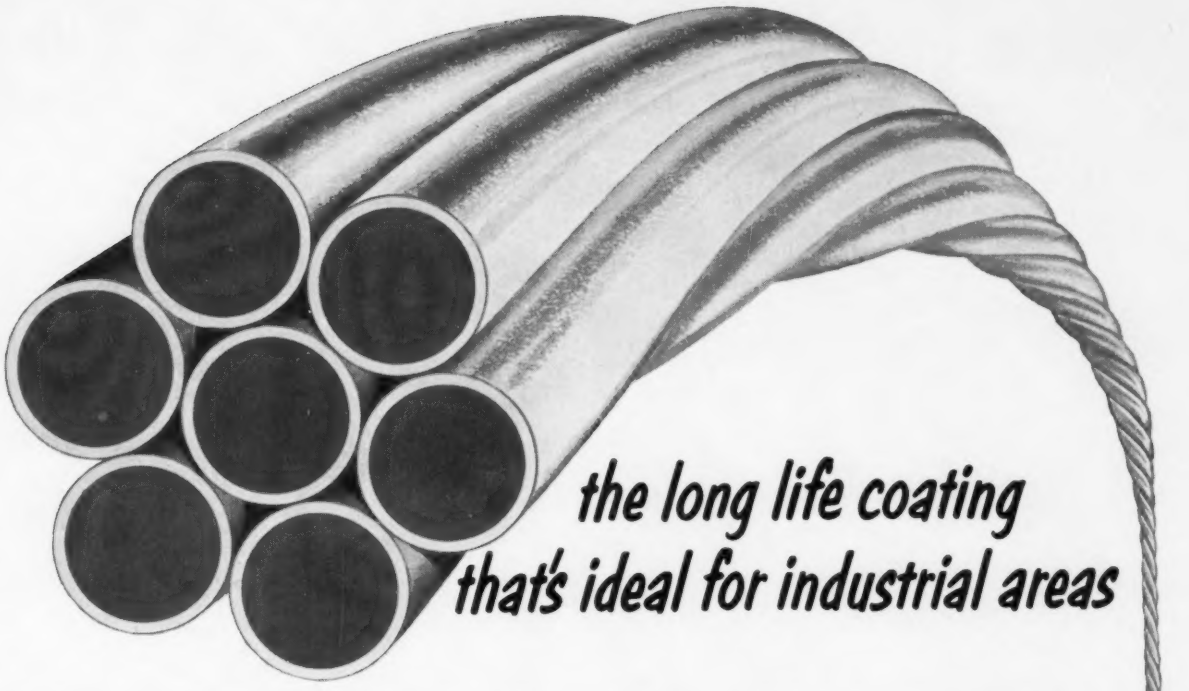

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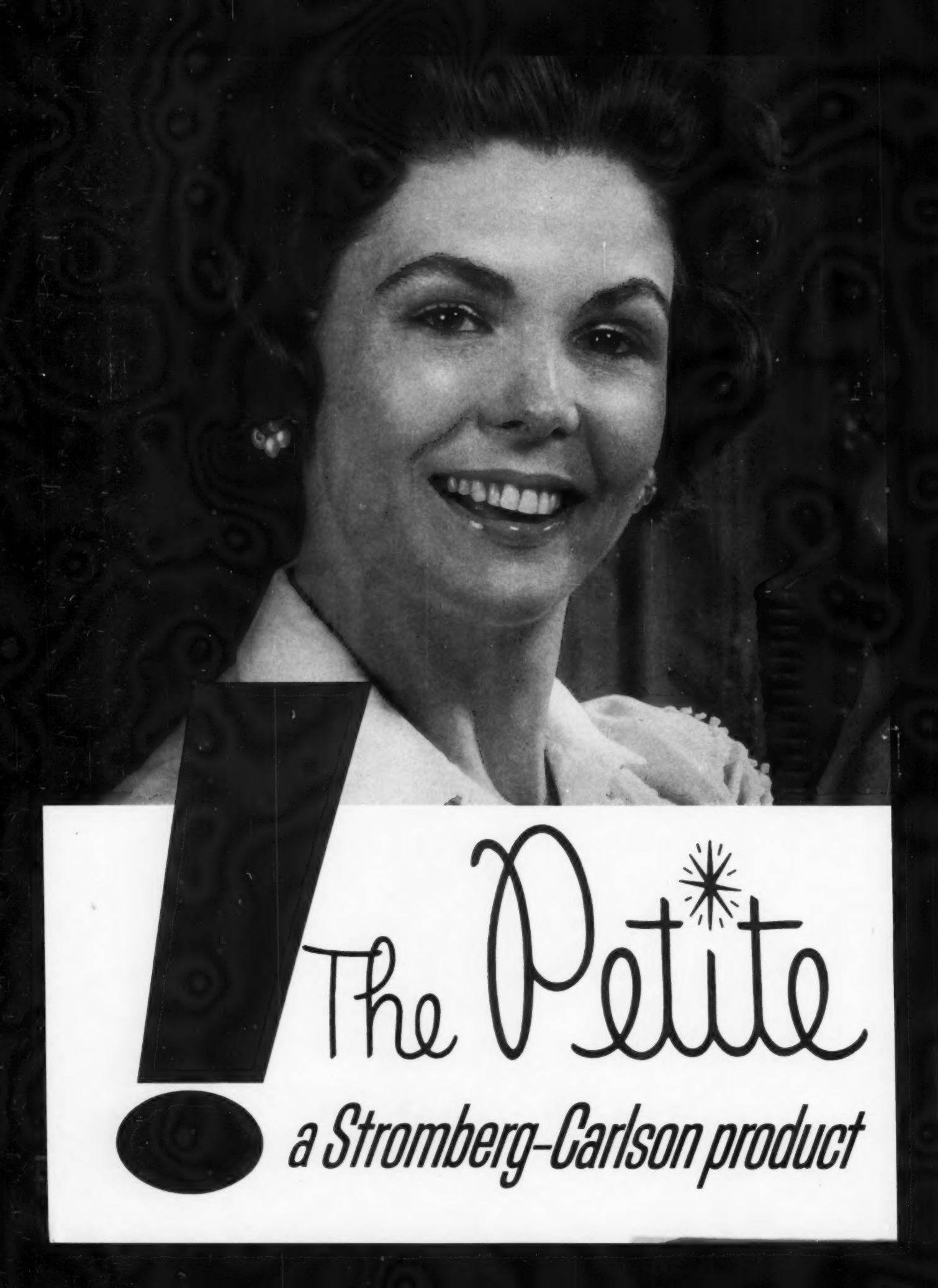
The Petite
a Stromberg-Carlson product

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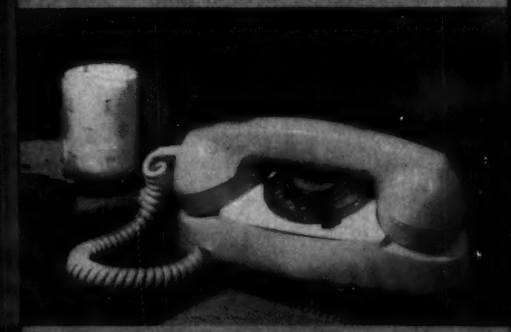
It's so handy in the kitchen . . . takes so little space.



Ideal for teen-ager's room and all around the house. Choice of white, beige, blue, pink or turquoise.

It's SMART... it's SMALL... it LIGHTS...

The PETITE is the greatest little profit producer to come your way in many a year.

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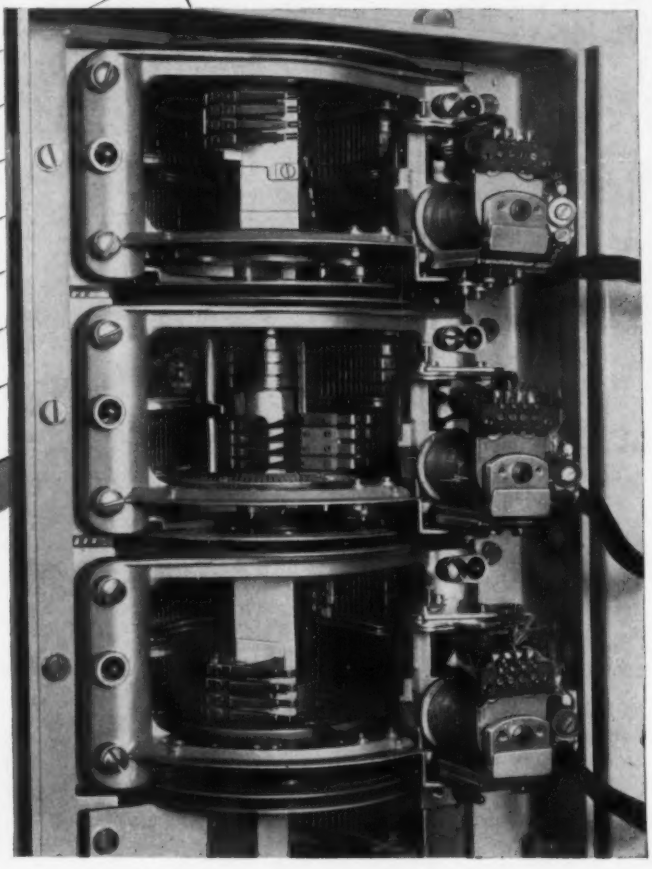

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A compact data communications center

The Teletype Model 28 ASR set is a machine of many talents—time and money saving talents that are ready to go to work in your data and message communications systems.

The page printer provides facilities for sending and receiving on message paper or sprocket-fed forms. It can also be used for preparing records or as a read-out device. Platens are available to accommodate a variety of form widths, from 3⅝″ to 9″.

The punched tape equipment is unusually flexible and versatile. Facilities are provided for encoding data into tape (with or without printing on the tape) . . . transmitting from tape . . . integrating repetitive data from previously prepared tape with variable data by keyboard . . . obtaining punched tape as a by-product of communications for computer and other business machine input. There is a choice of four different punches and four different readers and, where additional tape punch facilities are needed, a model is also available with an auxiliary tape punch.

In addition, the Model 28 ASR comes equipped with a "big plus"—the Stunt Box, a built-in programming mechanism that offers an inexpensive solution to a wide variety of remote control and switching tasks, such as automatic station selection and telemetering.

All of these facilities are available to you in a compact console measuring approximately 39″ high, 36″ wide and 23″ deep.

Teletype Corporation manufactures this equipment for the Bell System and others who require the utmost reliability from their data communications facilities. Teletype equipment can be used with DataPhone and other communications services.

For a free brochure on the Model 28 ASR, write to Teletype Corporation, Dept. 65C, 5555 Touhy Avenue, Skokie, Illinois.

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FLASHES AND PLUGS

WHERE DO OLD TELEPHONE POLES GO? Well, they definitely don't fade away, AT&T's *Long Lines* informs us. At least, not at Roslyn Heights, Long Island.

They are very dear to George Gach, a sculptor who lives there. Mr. Gach is reported to be a graduate of the Academy of Fine Arts in Budapest. When he came to this country in 1952, he began noticing old telephone poles. He found that some were of chestnut, which, to his artistic eye, meant desirable wood for his art.

In 1955, telephone men were removing a pole. Mr. Gach noted that this was precious chestnut, and asked for a 16-foot length of pole. Learning he is a sculptor, they obliged him. Now, when a chestnut pole comes down, they think of Gach.

The artist's telephone sculptures include a 9-foot totem pole for a museum, and other creations such as the "Diver and the Sea," and the "Blind Beggar."

•

TAXES ARE TAXING. As the tax deadline looms, tax offices are receiving more and more telephone calls. Many and unusual are these inquiries.

A woman taxpayer telephoned to discuss her problem. Could she claim her three Great Dane dogs as dependents? She insists they are bodyguards and protect her from baser animals, such as "wolves."

An elderly man is reported to have asked for help. "How old are you, sir?" asked the consultant. "Eighty-four," was the reply. He was told he would get two exemptions and might not have to file, at all.

He protested, "Oh, I thank you very much, but I'm not asking for myself. It's for my Mother—she's 103."—Hy Gardner in *New York Herald Tribune.*

•

RIGHT PLACE AT RIGHT TIME. A housewife was sitting at the breakfast table one morning when she heard the garbage man outside. She dashed to the back door, her hair in curlers, face unmade and wrinkled bathrobe askew.

"Am I too late for the garbage?" she asked.

The garbage man took one look and said, "No ma'am, jump right in."

•

NOT IN THE PINK. A Milwaukee (Wis.) grandmother was suffering with a bad sinus headache when she telephoned her daughter and got her 7 year old granddaughter on the telephone.

"What's the matter, Grandma?" asked the little lady. "You sound so pale."

CHANGE OF ADDRESS

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Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY

1901 — 60 years — 1961

April 8, 1961

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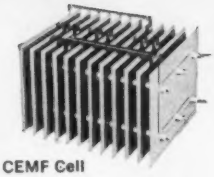

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Bat Tap d-c Voltage Reducer

PBX Power Supply

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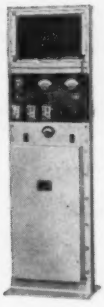
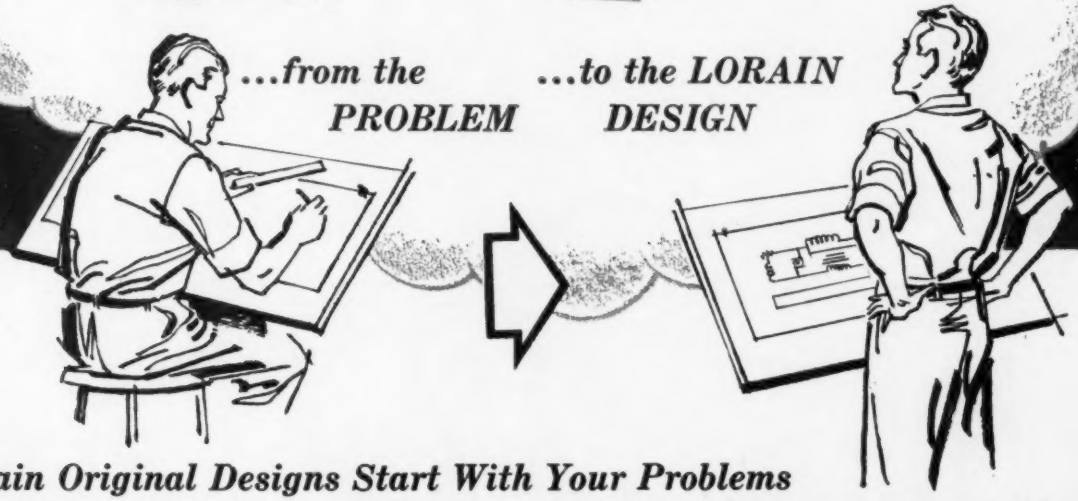


Power Panel

Transistorized
Multi-Frequency Converter



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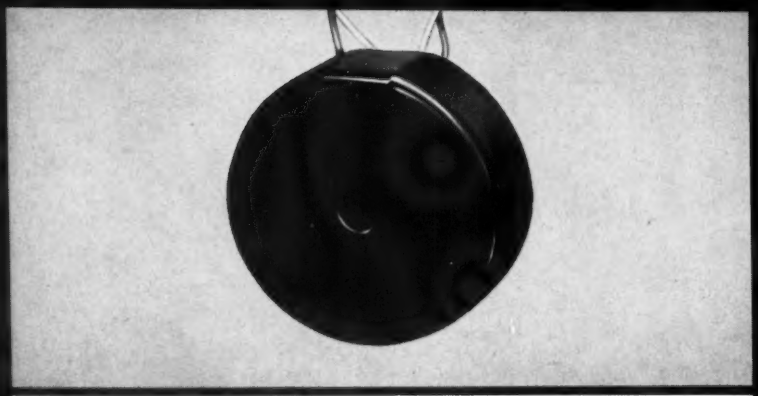

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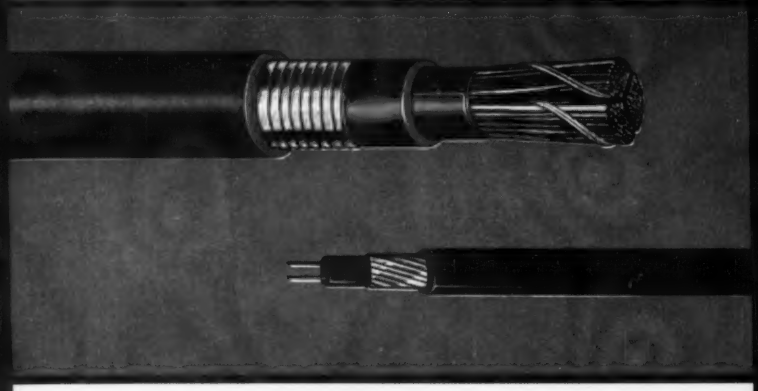

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NEW BELL LABORATORIES RESEARCH FORESHADOWS COMMUNICATIONS AT OPTICAL FREQUENCIES

A revolutionary new device, the continuously operating Optical Gas Maser, now under investigation at Bell Telephone Laboratories, foreshadows a whole new medium for communications: light.

Light waves vibrate at frequencies tens of millions of times higher than broadcast radio waves. Because of these high frequencies, a beam of light has exciting potentialities for handling enormous amounts of information.

Now for the first time, Bell Laboratories' new Optical Gas Maser continuously generates light waves that are "coherent." That is, the light waves move in phase as seen looking across the beam.

With further research, it is expected that such beams can be made to carry large amounts of information. The beams can be transmitted through long pipes. They can be projected very precisely through space, and might be used for communications between space vehicles.

Research with coherent light is another example of how Bell Laboratories prepares ahead for communications needs.

The Optical Gas Maser (above) was first demonstrated at Bell Telephone Laboratories. Heart of unit is a 40-inch tube containing helium and neon. Interaction between gas atoms produces a continuous, coherent beam of infrared light that may one day be used in communications.

BELL TELEPHONE LABORATORIES

WORLD CENTER OF COMMUNICATIONS RESEARCH AND DEVELOPMENT

Control brush safely...even near sensitive crops

Use non-volatile

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weed and brush killer

This right-of-way was sprayed with Du Pont "Ammate" X four years before the photograph was taken. Long-term control of brush, like this, results in lower maintenance cost on rights-of-way.

Sensitive crops are not exposed to vapor damage when you spray with "Ammate" X. Photo taken 45 days after spraying shows brush at left under control without injury to tobacco at right.

To control brush thoroughly and safely—even where your right-of-way is adjacent to sensitive crops such as tobacco, cotton, peanuts, tomatoes, grapes and soybeans, spray non-volatile Du Pont "Ammate" X weed and brush killer. Many power companies have used it for years without a single crop-damage claim.

"Ammate" X offers you big savings, too, because it gives long-term brush control. After the original spraying, you only have to *spot-spray* in subsequent years.

For more information on "Ammate" X—and all other Du Pont Weed and Brush Killers—write E. I. du Pont de Nemours & Co. (Inc.), Industrial and Biochemicals Dept., Room 2543-N, Wilmington 98, Del.

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Control brush with dry, non-volatile pellets of Du Pont DYBAR®

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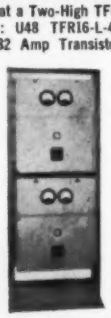

FIRST IN TRANSISTOR PRODUCTS F[illegible] THE TELEPHONE INDUSTRY

IN THE NATION'S CAPITAL

BY FRANCIS X. WELCH, WASHINGTON EDITOR
AND EDITOR, PUBLIC UTILITIES FORTNIGHTLY

REA Administrator Clapp explains policies on future telephone and electric loans. Kennedy's new anti-trust appointment excites great interest in business community.

THE NEW REA administrator, Norman M. Clapp, presented a very interesting insight as to how he proposes to carry out the rural telephone loan program in two recent addresses. On Mar. 23, he spoke to the annual convention of the Wisconsin Electric Cooperative Association at Madison. On Mar. 21, he addressed the North Dakota Cooperative Association. Mr. Clapp obviously believes the cooperative, as such, will have to play an even greater part than it has to date, in promoting the economic welfare of the rural community.

"Technological changes in production, new techniques of marketing, changing consumer demands, have brought on a revolution in agriculture," said Administrator Clapp. This revolution, he continues, has brought to our country "a miraculous abundance, but it also has created critical problems which demand our prompt attention." The REA administrator quotes Agriculture Secretary Freeman as saying that "the basic problem we are combating—in rural America as in the cities—is lack of enough jobs." Mr. Clapp points out that the number of "underemployed" people in agriculture has been estimated at 1.4 million workers, and that in 1959, more than 35 per cent of all farm families in the United States had incomes of less than $2,000. "You can see," he says, "that we face a problem of serious proportions."

"We know that much of the task of creating greater opportunity in rural America must fall to rural electric cooperatives," Mr. Clapp declares. Pointing to the great economic impact of cooperatives on their service areas, he tells each co-op manager and director that "you might just as well accept your new role as community leader and developer, because it is going to be thrust upon you by the course of events." Citing the community improvement record of a number of REA-financed systems in the nation, he calls on the cooperatives to help form local improvement committees, industrial development commissions, and area-wide associations of electric systems.

The administrator then said that "industrial development, in my opinion, should not be confined to the business of enticing ready-made industry to come into our communities from the outside. Perhaps the greatest contribution we can make will be in stimulating new enterprise. It can be cooperative enterprise, strictly home-grown, based on local needs and geared to existing markets."

The administrator added that "if President Kennedy's depressed areas legislation is enacted with a provision for backing a rural community improvement program with federal loan funds, I hope that REA can play a role in that program. At the very least, I hope that REA will have an opportunity to pioneer a demonstration or pilot project to prove that the old REA approach can be applied to creating new kinds of community enterprise."

More REA Loans for Co-ops

It was in his North Dakota address, however, that the administrator foresaw a definite greater role for the cooperatives in the rural telephone loan program. He said on this:

"Overall statistics in this state (North Dakota) and across the nation tell a story of accomplishment. In many ways we have done well, but have we done as well as we should? Along with the evidence of progress there have been voices of discontent. A variety of criticisms have arrived to my desk. You have seen some of them in print:

"(1) That REA's telephone loans program has for some time been 'frozen' at an annual level below what some people expected.

"(2) That the co-ops have been receiving an increasingly smaller share of telephone loans in comparison with the amounts going to investor-owned telephone companies.

"(3) That the area coverage concept has not been prosecuted as firmly as it should.

"(4) That equity requirements are more rigidly enforced for co-ops than for the commercial companies.

"(5) That loan applications for co-ops are delayed by frequent and needless referrals back to the applicant for additional information.

"(6) That co-op loan applications are increasingly handicapped by bid-up prices on acquisition of existing properties.

"(7) That speculators are using REA financing with an eye to quick profits rather than to area-wide rural service.

"(8) That REA has been reducing the amount of technical assistance to borrowers.

"These are serious criticisms. I do not know yet if they are entirely warranted, but I intend to find out. We are going to move at once on a complete reappraisal of our telephone program that will probe for facts. We will ask ourselves if the established REA policies and procedures are getting the best results, and we will be willing to face up to the answers.

"REA's position is quite like yours when a subscriber sends in a service complaint. You do not toss it in the wastebasket or bury it in the file. I

assume that you make out a trouble report, determine the cause, and then make the necessary repair.

"That is approximately what REA is going to do. As soon as we are sure we have the facts, we will take direct, remedial steps."

Administrator Clapp then reviewed the backlog of telephone loan applications on hand—90.5 million dollars as of last Jan. 20 (Kennedy's inauguration), plus about 26 million dollars now in field preparation. Since Jan. 20, REA has made 36 telephone loans, amounting to $16,291,000, of which 11—totaling $4,790,000—went to co-op borrowers. He said this about co-op borrower possibilities:

"How to complete area coverage will not be easy, as you already know. High-quality service in thin territory will call for resourcefulness on the part of cooperatives in North Dakota and elsewhere, and by telephone companies which are trying to extend service and still make a profit.

"In surveying the tools at hand, we must recognize that the cooperative device has some special, distinctive advantages. It is no reflection on the stock company to point out that its primary function is to make money for the investors. The cooperative, on the other hand, springs directly from the desire for service. We want cooperatives that pay their way. The cost of the service must be covered, but the basic drive behind the cooperative must be service at the lowest possible cost.

"So we move into the more marginal and more difficult stages of area coverage. It can be expected that if the job is to be done, the cooperatives will have to play a larger and more important role.

Clapp added that he meant "no slight to telephone companies organized to make a profit." He said many had done excellent jobs and some were the only ones in a position to provide area coverage. "REA will continue to work closely with companies where they can serve rural people as provided in the act."

The administrator noted that "the easiest part" of achieving dial telephone coverage—that around towns and along highways—has been accomplished. "Now what are we going to do about isolated families?" he asks. "It seems to me that this is the ultimate challenge to REA, to its borrowers, and to the entire telephone industry."

New Anti-Trust Boss

There have been few, if any, second echelon appointments by the Kennedy administration which have excited greater interest in the business community than that of the new assistant attorney general in charge of the Anti-Trust Division of the Justice Department. His name is Lee Loevinger and he was drafted from the bench of the Minnesota Supreme Court, to which he was appointed as associate justice only a year ago.

The Anti-Trust Division is a most sensitive spot for all business, including public utilities. It is a common mistake, even among lawyers, to assume that because public utilities are regulated area monopolies they are exempt from the anti-trust laws by the very nature of their operations. This is true to a certain extent. Commission regulation has been substituted—in the case of public utilities—for the competition which the anti-trust laws are designed to enforce in the area of unregulated business.

But it is also true that modern large public utility operations may tend to involve affiliated but unregulated or non-utility enterprises, particularly in the manufacturing and supply fields. The most sensational anti-trust case conducted by the Justice Department in recent years has been the prosecution of a group of electrical manufacturers charged with price fixing on equipment sold to operating electric utility companies. Now these same electric utilities have formed a national committee for purposes of determining to what extent they should sue the convicted manufacturers for damages under the anti-trust laws, because of overpricing on the equipment the utilities have bought from such manufacturers in recent years.

In the telephone field, we can recall the famous consent decree of 1956 whereby the U. S. Government settled its 12-year anti-trust suit against the American Telephone & Telegraph Co. and the Western Electric Co. on condition that Western Electric limit its future manufacturing operations to the supplying and servicing of the regulated telephone business.

More recently, on Mar. 30 to be exact, the U. S. Circuit Court of Appeals for the District of Columbia upheld a merger of El Paso Natural Gas Co. and the Pacific Northwest Pipeline Corp., previously approved by the Federal Power Commission. The two companies serve the West Coast and the Pacific Northwest. The Justice Department attacked the merger as a violation of the Clayton Anti-Trust Law in a civil case which is still pending in federal district court in Salt Lake City. California appealed the FPC authoriza-

(Continued on page 46)

Recent Quotations of Telephone Stock

	3/30/61 BID	3/30/61 ASKED	3/1/61 BID	3/1/61 ASKED	Current Indicated Dividend Rate
Anglo-Canadian Tel. Co.	56	58	46½	48½	$1.20
British Columbia Tel. Co.	46	47½	48½	50¼	2.20
California Interstate Tel. Co.	17¾	18¾	17¼	18¼	.70
California Pacific Utilities Co.	25¼	27	25¼	27	.90
California Water & Tel. Co.	32¾	33¾	32½	33½	1.36
Carolina Tel. & Tel. Co.	44½	46½	43	45	1.60
Central Tel. Co.	29½	31	26¼	28	.88 + Stk.
Chenango & Unadilla Tel. Corp.	26½ Bid		26½ Bid		1.35
Cincinnati & Subn. Bell Tel. Co.	110	113	108½	111½	4.50
Citizens Utility Co. "A"	25½	27	24	25½	Stock Div.
Citizens Utility Co. "B"	22	23½	22	23½	.60
Commonwealth Tel. Co.	26	27½	23½	25½	1.00
Florida Tel. Corp. Class A	30	31¼	28¾	30¾	1.00
General Tel. & Elec. Corp. Common	29	Last Sale	27⅞	Last Sale	.76
Hawaiian Tel. Co.	34¼	35¼	30	31¼	1.08
Indiana Tel. Corp.	26 Bid		26 Bid		—
Inter-County Tel. & Tel. Co.	28	30	28	30	.72 + Stk.
Inter-Mountain Tel. Co.	17½	19	19¼	20¾	.80
Jamestown Tel. Corp.	90 Bid		90 Bid		6.00
Lincoln Tel. & Tel. Co.	65 Bid		65 Bid		2.60
Lorain Tel. Corp.	33½ Bid		33½ Bid		1.40
Middle States Tel. Co. of Ill.	32½	34½	32	34	.92 + Stk.
North Carolina Tel. Co.	1⅜	1⅞	1	1⅜	—
Northern Ohio Tel. Co.	64	67	63	66	2.00
Peoples Tel. Co.	105 Bid		100 Bid		4.00
Pioneer Tel. Co.	36 Bid		36 Bid		1.00 + Stk.
Rochester Tel. Co.	26½	Last Sale	27	Last Sale	1.00
Southeastern Tel. Co.	28	30	25	27½	1.00
Southern Nevada Tel. Co.	42	44	39½ Bid		1.20
Southern New England Tel. Co.	51¼	53¼	49	51	2.20
Southwestern States Tel. Co.	32	33¼	31¼	33¼	1.28
Tel. Service Co. of Ohio Class A.	34½	36½	32	34	.36 + Stk.
Tidewater Tel. Co.	27 Bid		27 Bid		1.40
United Utilities, Inc.	51½	53	52½	54¼	1.60
West Coast Tel. Co.	33	34	31	32½	1.28
Western Carolina Tel. Co. Ex-Rights	9¼	10¼	9	9½	.43
Western Light & Tel. Co., Inc.	61½	64½	54½	56½	2.40
Western Utility Corp.	11½	12½	11½	12½	.36

Controlling the Cost of General Services Through

Efficient Management of Buildings

By W. V. BENJAMIN*

ONE OF THE MANY stories told about the development of the atomic bomb covers the original proposal to former President Roosevelt. When he was informed that the development cost might be as much as two billion dollars, he supposedly said, "Well, if it works, the public will never ask what it cost, but if it doesn't, they will never let us forget."

This same philosophy is quite commonly applied to the operation of company-owned buildings. As long as there are no apparent failures, management gives little attention to either the cost or efficiency of operation. However, if the heating system fails in the middle of the winter, or the roof starts to leak over some vital equipment, then everyone from top management on down, wants to know why something wasn't done about it a long time ago, so the failure would not have occurred.

The problems associated with the operation of a building involve a specialized knowledge that is quite foreign to the regular maintenance problems of the business. Consequently, the building operating job tends to become an independent operation that goes along under its own momentum—until something goes wrong. In most local operations, the job is not big enough to justify functionalized supervision, so it gets attached to some convenient maintenance supervisor, so as to make the organization chart complete. However, since the building forces do most of their work at night, and while the maintenance supervisor does most of his supervision during regular hours, the effective supervision of the job oftentimes consists of writing notes to each other. These are some of the reasons why the building operating job seems to get less real management attention than the regular production and maintenance operations of the business.

Each building is an individual creation, representing the combined efforts of the engineer, the architect, the general contractor, and sub-contractors. While it may seem to have a close resemblance to other buildings of the same type, a more detailed analysis will reveal a great deal of difference. The type of heating system, ventilating system, plumbing system, lighting fixtures, floor coverings, paints, and various other component parts, represents a combination that will not be duplicated in any other building.

Consequently, it becomes impractical to prepare a detailed operating practice that will apply to even a group of similar buildings. Standard practices can be prepared to cover common work operations, such as the waxing of linoleum floors, but for operations such as the maintenance of an oil burner, the instructions would have to be limited to general principles only, because of the wide variety of oil burner systems involved.

Third of Series

This article is the third of a series on "Controlling the Costs of General Services," by Mr. Benjamin.

The first article appeared in the Feb. 18 issue. The second article on "Efficient Management of Materials" and the third on "Efficient Management of Buildings" were published in the Apr. 1 and 8 issues, respectively.

The fourth and last installment, on "Efficient Management of Vehicle Fleets," will appear in the Apr. 15 issue.

In spite of all of these difficulties, the basic fundamentals of good management will still apply, and will produce the same efficient results in building operations, as they do in other plant operations. The problem is to get them applied with the same degree of enthusiasm.

The building operating job consists primarily of the following types of work:

(1) Keeping the building clean.
(2) Keeping the heating system, ventilating system, and other types of mechanical plant, in efficient operating condition.
(3) Maintaining the exterior, and interior surfaces of the building, in good condition.

The job of keeping the building clean represents the biggest item of expense in building operations. The work involves such things as sweeping, dusting, emptying waste paper baskets, and other similar manual labor operations. While there are some mechanical tools, and improved materials, that make the job easier, the work is basically manual labor. Consequently, there is little hope of making a major reduction in manhours by automation or mechanization. Improved efficiency must depend largely upon better management of the job by means of effective force control, and improved planning, organizing, and control of the work operations.

It has been rather common practice to determine force requirements for cleaning a building on the basis of an average number of manhours per thousand square feet of floor space. However, the manhours required to clean 1,000 square feet of floor space in an equipment area is quite different from the manhours required for an equivalent area of office space. Consequently, the most practical solution is to com-

(Continued on page 22)

*Mr. Benjamin is General Building Supplies and Motor Equipment Supervisor of Wisconsin Telephone Co., Milwaukee, Wis.

AN
INTRODUCTION
TO THE
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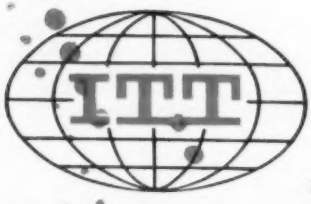

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pute the manhours required upon the actual number of work operations that have to be performed. This requires a detailed analysis of the cleaning operations in the entire building, and means inventorying such items as square feet of linoleum floor surface, pieces of furniture, windows, wash room areas, and various other basic work units.

It is also necessary to plan and schedule the average frequency of the cleaning operations in accordance with the degree of cleanliness desired. Certain operations will be done daily, others weekly, others monthly, and some as infrequently as once or twice a year. This is where good management judgment is required in establishing frequencies that are consistent with the quality desired, but not any more often than necessary. Once the number of work operations has been determined, and the frequency of cleaning established, it is a simple problem in arithmetic to determine the manhours required. Average time factors for each of these work operations are in common usage throughout the building management industry, and these factors may be used as is, or modified with management judgment, to meet local conditions.

One of the principal functions of cleaning is to get rid of the dust that has settled on floor surfaces, and furniture surfaces throughout the building. In the early days of office building management, this was done with either a feather duster, or a broom, which only stirred the dust into the air so that it could settle back again in a short time. Modern cleaning methods involve the use of an oil treated cloth or paper, which picks up the dust and holds it in the cloth or paper so that it is actually removed from the area. The treated cloth is reusable after being laundered and retreated. The paper is disposed of after it becomes saturated with dust.

Since dust is a large factor in the amount of cleaning effort required, it is obvious that the less dust there is in the building, the fewer manhours required. Theoretically, if the building is equipped with mechanical ventilation and adequate filters, the cleaning effort should be reduced accordingly. The only trouble with this theory is that a building is usually filled with people, and when the weather gets warm, people open windows, unless the building is also air-conditioned. However, if the building is equipped with air conditioning, then the windows can be kept closed the year round, and this does make it possible to lengthen out the cleaning frequencies, and reduce manhours accordingly. That is why two different schedules are used in figuring the cleaning manhours required. One is for a fully air-conditioned building, and the other is for a building that does not have cooling.

It should be recognized that whatever cleaning frequencies are established, these are average schedules and still have to be adjusted to meet the actual needs resulting from variations in weather and amount of traffic in the building. For example, the schedule may provide for re-waxing a linoleum floor every six months, but the time to refinish the floor surface is when it actually needs it, and this will depend upon weather conditions, and the amount of floor traffic involved.

Certain types of cleaning work, such as dustless sweeping, or low-level dusting, can be done most efficiently by women. Other cleaning work, such as work involving the use of ladders, or the use of heavy tools, generally requires men. In the analysis of the overall work for the building, the manhours should be divided between the requirements for work normally assigned to women, and the requirements for work which men would be expected to do. Where the volume of work is sufficient to justify it, this would usually result in a force of both men and women, with separate duties programmed for each.

The cleaning of the building can be done most efficiently when the building is essentially unoccupied. That is why it is generally the practice to schedule the cleaning work to start after regular working hours. The use of part-time schedules of about four to five hours per night, generally will be found to be the most efficient schedule for the work assigned to women.

The efficient management of the cleaning force offers the greatest possibilities for keeping building operating costs at a minimum. While the work unit analysis, and planned frequencies, provide a means of systemizing the job, good management must be continually re-evaluating the actual need for each work operation, and constantly questioning whether a particular frequency could be lengthened, or even omitted entirely, without affecting the over-all appearance of the quarters. It is only out of such an inquisitive approach to the cleaning job that continued improvement in costs can be obtained.

Telephone buildings usually contain large areas of linoleum, or tile floor surfaces, and the job of maintaining the wax surface on these floors is a fairly large part of the cleaning job. This waxed surface not only adds to the appearance of the floor, but it also protects the floor material, and minimizes the time and effort required to keep it clean.

Until recent years, the floor wax material commonly used was a water emulsion product, with additives to increase the slip resistance. However, since the product was originally dissolved in water, the use of such material in areas where water from wet clothes came in contact with the floor, usually produced a slipping hazard. Also, the formula used was usually a compromise between long life, and slip resistance, so frequent rewaxing was necessary.

Technical improvements in floor wax materials have produced the new polymer type of finish which seems to be generally replacing the water emulsion wax. These new plastic finishes generally provide improved slip resistance and longer life. However, like alcohol and gasoline, they don't mix with the water emulsion wax, so a thorough job of removing all of the old wax must be done before applying this new type of floor finish. When used properly, however, they should make it possible to lengthen the stripping, and rewaxing cycle, and to reduce the amount of labor required accordingly.

Modern buildings contain complex heating systems, ventilating systems, and in many cases, air-conditioning systems. Although these systems are usually installed with a variety of controls, it is not too uncommon to find that little or no attention has been paid to the maintenance of these complex controls until they finally deteriorate to the point where a complete failure results, and the entire system is shut down, sometimes with appreciable damage to equipment. Considerable technical knowledge is required to understand the proper functioning of these mechanical systems, and where proper training has not been provided,

(Continued on page 50)

MIND YOUR OWN BUSINESS

A personal file of stimulating ideas; little known facts and daily problem solvers

By Ted Pollock

THE LETTER-WRITING SECRET THAT ALWAYS WORKS. No matter how you earn your living, part of your success probably depends on your ability to sound interesting on paper. Yet, many ordinarily articulate people "freeze" at the sight of a blank piece of paper. Result: Cliché-ridden, pompous documents that accomplish nothing. Long words, mossy phrases, tangled sentences and the disastrous notion that there is a special "written English" all conspire to defeat the prime purpose of a letter —*communication.*

One answer, according to leading authorities, is to *write as you talk.* Some tips:

• *Use the personal pronouns, "I" and "you."* They are short, precise and far more interesting than such circumlocutions as "the present writer," "the undersigned," "the reader" or such impersonal constructions as "it will be understood" when you mean "you'll understand."

• *Abbreviate when appropriate.* Instead of writing "I did not," write "I didn't"—just as you'd say it.

• *Break the "rules," if necessary.* English is a living, changing language. What was unacceptable 20 years ago may be fine today. Thus, you were probably taught in school that it's wrong to end a sentence with a preposition. Yet, there are times when any other construction sounds awkward. (Winston Churchill buried this notion forever when he quipped, "That is the sort of arrant pedantry up with which I will not put!")

• *Use a colloquialism or slang word if it best suits your purpose.* If good usage is the meat-and-potatoes of our language, colloquialisms and slang are its pepper and salt. There are no real substitutes for such expressions as *okay, you bet, bark up the wrong tree,* and so on. But, like pepper and salt, they should be used sparingly for maximum effect.

• *Stick to the active voice.* Say "I've read your letter," not "your letter has been read"; "I appreciate your comments," not "your comments are appreciated." The active voice is dynamic; the passive voice, wishy-washy.

• *Be modern.* Avoid stuffy, unnatural phrases like "reference is made to yours of the 15th" or "please be advised." Instead, use clear, concise language. For example:

DON'T SAY	DO SAY
At an early date	Soon
Acknowledge receipt of	Received; got
Enclosed please find	Here's
Please note	You'll notice
You may rest assured	You can be sure
With your kind permission	If it's all right with you
Am pleased to advise	I'm happy to say
Thanking you in advance	(omit altogether)
Regret to advise	Unfortunately; I'm sorry to say
Pursuant to our conversation	As we agreed; as you requested; as I said

WEAR GLASSES? If you do, you probably know from sad experience how exasperating it can be to lose or misplace them. To reduce the risk, tuck or tape your business card inside your eyeglass case. For added insurance (if you travel), take along either an extra pair or the prescription for new lenses.

THIS COULD SAVE YOUR LIFE!

Examine the contents of your wallet. Think you have everything you need? The odds are that—like eight out of 10 of your neighbors—you aren't carrying the one most vital piece of information about yourself: *your blood type.* Should a sudden emergency arise, it could save you, and your family, untold grief. A card in your wallet, identifying *blood type and rh factor,* is peace-of-mind insurance. Better yet, print this information on your identification card. If you aren't certain of the facts, have your physician determine them.

CONQUER ON-THE-JOB TENSION WITH ON-THE-JOB EXERCISE. Desk-bound and push-button pampered, we can't always get the exercise we know we need to reduce tension, feel better, work at maximum efficiency. Yet, there are many "little" exercises that you can perform on-the-job and throughout the day which need not interfere with your routine and which can be almost as beneficial as a trip to the gym. Try these:

• In the morning, park your car or get off your bus four or five blocks from work. Briskly walk the rest of the way.

• In your office building—or anyone else's—get off the elevator a floor before your destination, walk up the last flight.

• Use odd moments during the day to do a few semipush-ups—lean on your desk at a 45-degree angle, then push yourself up straight. Or, try several deep knee bends.

• Tension builds up in the neck and shoulders. So, whenever you've been working in one position for any length of time (at your desk, for example), sit back in your chair and shrug your shoulders several times. A few old-fashioned stretches can be a tonic, too.

• Set aside part of your lunch hour for a walk. Even 10 minutes so spent can help work off "tension build-up."

• Don't take the elevator down at the end of your day. Use the stairs.

FOR MORE EFFICIENT READING. Is keeping up with the literature in your field getting you down? Does there seem to be just too much to read? A helpful technique is *skimming*, the skill that gives an "airplane view" of the printed page.

Try reading the first sentence only of each paragraph. Drive yourself through a chapter in a book or an article in a magazine, reading only the first sentence of each paragraph. Before long, you will be aware that this procedure makes sense, that the thought is flowing smoothly and progressively. If the first sentence doesn't make sense, try the last sentence of the paragraph. When you have finished, you will be aware of two things. First, you will have an over-all view of the entire selection. Second, you will be aware of having read *thoughts*, not just words.

Occasionally, you will find a writer with whom this method of skimming doesn't seem to work. Such writers are the more difficult ones to read. They hide the "key" sentence in the middle of paragraphs. But writers usually follow a consistent pattern of thought development and once you crack one or two paragraphs and understand how the author works, all the others will probably show a similarity of structure and plan.

If, after skimming, you decide that you want to read with more thoroughness, you can still save time by rereading the entire piece "telegraphically." That is, look for the words within the paragraph that express ideas without adding unnecessary detail. For example, read the following:

Reading is an extremely complex psychological process. Marked reading retardation should have the best advice of a reading specialist. The quickest way for anyone to improve his reading efficiency is to seek the help of a reading center, such as is to be found at many leading universities.

How many words did you read? There are 48 words in that selection and, unless you are a skillful reader, you probably read all 48 of them. Here, however, is what you should have read:

Reading complex process. Retardation should have advice of specialist. Quickest way to improve efficiency is seek help of reading center. Found at leading universities.

You have lost nothing of the thought, but you have reduced your reading load by exactly 50 per cent!

IS THAT WORRY NECESSARY? Got a problem? You may be surprised to learn how pointless worrying about it can be. Here is a handy "Worry Table" against which to check your anxiety:

Worry Table

(Things we worry about)

Things that never happen.....	40%
Things that can't be changed by all the worry in the world....	35%
Things that turn out better than expected	15%
Petty, useless worries	8%
Legitimate worries	2%
Total.....	100%

Next time you're upset and worried about something, remember—*it's 50 to 1 against it being a real cause for concern.*

TO GET THINGS DONE — START 'EM! One of the biggest stumbling blocks to achievement: *Getting in debt to yesterday*, the inevitable result of postponing a task.

To avoid this costly procrastination, use reverse strategy: *Start tomorrow's job today.* In the morning, you will get a psychological lift from finding the task already begun, be better prepared to plunge right in and finish it.

Actually, you will be taking advantage of a well-known psychological fact: Our memory for uncompleted tasks, sparked by the unresolved tensions they create, is 10 times greater than our memory for completed ones. When you leave a job unfinished, your subsconcious—that silent ally always on duty—goes to work on it. Later, when you return to the job, you are often amazed to discover that you have a whole new arsenal of ideas, insights and solutions to draw from.

AT YOUR SERVICE: THE POST OFFICE. A working knowledge of the mailing services offered by Uncle Sam can save you time, money and a lot of needless worry. The most important:

Special handling. Guarantees a parcel will go first class at far lower cost than if you actually sent it first class. For a package up to two pounds, you pay the parcel-post rate plus 25 cents; between two and 10 pounds, 35 cents extra; over 10 pounds, 50 cents. Particularly useful for (1) fragile merchandise; (2) quick delivery. (Note: you no longer need tape accompanying letters to the outside of packages. Instead, put letter inside, write "first class letter enclosed" on package, add an extra 4-cent stamp for every ounce of first-class matter enclosed.

Registered mail is insurance against loss. It can be traced and delivery proved by the post office because records are kept of each step in its handling. Minimum cost: 50 cents plus regular postage. For 10 cents more, you can request a return receipt—notice that mail was actually delivered. Recommended for mailing valuable documents and articles.

Certified mail. Similar to registered, it provides proof that you mailed a letter. You do the certifying yourself via a special tag costing 20 cents that you stick on the letter. Recipient's post office makes a note of the letter's arrival, keeps it on file for six months. A receipt costs an additional 10 cents.

HOME REPAIR TIP. A cracked pane of glass can be temporarily held together and weather-proofed with a coat of fresh white shellac on the inside. Vision won't be obstructed by the shellac coat. Breezes and rain will be kept out until the pane is replaced.

SAFEGUARDING SAVINGS BONDS FROM LOSS

Series E savings bonds are safer than cash and their value grows, while that of cash in your pocket or household doesn't. Despite this, savings bonds have been forged, stolen and fraudulently cashed. But you can't lose if you take sensible precautions. The Treasury Department will replace any savings bonds lost, stolen, mutilated or destroyed. All you have to do is:

(1) Keep your bonds in a safe-deposit box or other safe place.

(2) Record the serial numbers, amounts and dates purchased in a place separate from the bonds themselves.

(3) Give immediate notice of your loss—including serial numbers, purchase dates (month and year), denominations (values at maturity), a description of how mutilated or destroyed and name and address of the owner—to the Bureau of Public Debt, Division of Loan and Currency, Treasury Department, 536 S. Clark St., Chicago, Ill.

A Letter From Stuttgart, Germany

Joel Ewen*, Telephony's *European correspondent*, *visits two interesting and unusual microwave towers in Stuttgart.

Stuttgart, Germany
March 20, 1961

Dear TELEPHONY Readers:

As one drives through Western Germany, either on the Autobahn (Superhighway), or along the narrow country roads, one cannot help but notice a tall, thin, concrete tower with platforms near the top, standing on a distant mountain peak. Resembling lighthouses whose beacons are a warning to ships at sea, these towers also transmit a beam, not a beam of light, but of electromagnet energy. These are the German Post's unique microwave repeater stations, or Fernmeldeturm as they are called.

The busiest and most important of these repeater stations is the one overlooking the city of Stuttgart. Many different microwave systems are transmitted from this tower, plus a VHF radio channel, and plus a 160 Mc. channel for mobile radio. As if this isn't enough, a 130-foot television antenna was recently erected atop the building. The TV antenna will transmit programs to the Stuttgart populace, as soon as Germany's second TV network comes into being later this year.

The repeater station was 190 feet high, but with the addition of the TV antenna, it now stands 320 feet tall. The tower's diameter is 23 feet, while the concrete walls are only 6 inches thick. As luck would have it, the elevator hasn't as yet been installed, and we have to trudge our way to the top along a narrow circular staircase. Accompanied by Herr Hans Scholz from the Post headquarters in Stuttgart, we ascended toward the top. The staircase wound around the inside of the tower shaft, and from the second story to the sixth, there were no floors.

At the sixth floor below the top, we came to an empty room that formerly housed a distributing frame. The room had been made vacant to house the elevator system, and a hole had been cut in the floor to make way for the elevator car. Moving up to the next floor, we came upon a system of PPM Rf/2000 microwave, mounted in 5-foot cabinets. The system is for short-haul use, transmitting the sound portion of a television program to a TV station serving a small town north of Stuttgart. Similar systems on the ground floor, PPM 24/2200 and PPM 24/2500, each carry 24 telephone circuits to several smaller towns about 50 miles away. PPM 24/2200 means 24 channels of Pulse Position Modulation being transmitted at about 2,200 Mc.

On the floor above we encountered one system of FM 120/2000, the companion to an FM TV/2000 system located at the base of the tower. As can be seen from the designations, the first system furnishes 120 telephone circuits to a group of small cities, and the second a television program to a number of TV stations in the area. The three floors above contain the long-haul microwave systems, FM 960/4000 and FM TV/4000 which form part of a nationwide microwave route for multichannel telephone traffic and the exchange of television programs among the big cities of Western Germany.

The Frankfort portion of the route was described in a previous letter (TELEPHONY, Dec. 10, 1960). These broadband systems are located close to the top because their critical nature requires that the waveguides, the transmission lines to the antennas, be kept as short as possible. The 2000 Mc systems are somewhat less critical and may, therefore, be located on lower floors. As a further safeguard, the waveguides are filled with dried and compressed air to keep moisture out and prevent reflections in the signal.

At this point, my host inquired if I would care to visit the antenna platforms, and I replied in the affirmative, not realizing what was involved. We ascended an iron ladder, through a trap door in the ceiling and came out on the lower platform. Here, almost 200 feet above the ground were mounted the huge horn antennas of the broadband systems.

Walking as close to the edge as we dared, as there was no railing, we could see Stuttgart far below us in the valley. The wind was blowing fiercely, and it began to snow as we climbed to the two upper platforms, which support the parabolic antennas of the 2,000 Mc systems. The platforms had recently been reinforced with steel beams, as the tower had never been intended for so much equipment. I declined to climb the television antenna, and we returned to the warmth of the equipment rooms.

Back on the ground floor, we met Mr. Fritzsche, equipment supervisor at the repeater station, who filled us in with some background information. It seems the tower was completed in 1954 as part of a microwave system to provide television programs from any of the studios in Germany to all of the broadcasting stations, in connection with Ger-

many's first TV network. Only the picture is transmitted by radio relay, the sound being sent by cable. However, as we saw upstairs, one TV station receives TV sound over a separate PPM microwave route, while another obtains TV sound via a VHF radio link. In addition, TV programs originating in the Stuttgart studios of the local broadcasting company, are transmitted by a microwave link to the tower, where they are fed into the national TV network.

At its inception, the radio relay system was not used for telephone communications, land lines being adequate at the time. However, when the Post began introducing subscriber toll dialing, the traffic began increasing and telephone systems were added. Soon it became necessary to build another structure to accommodate the additional systems, and a one-story building was constructed at the base of the tower. Equipment on the upper floors was relocated to the new structure, to make way for the broadband systems which must be located near the antennas.

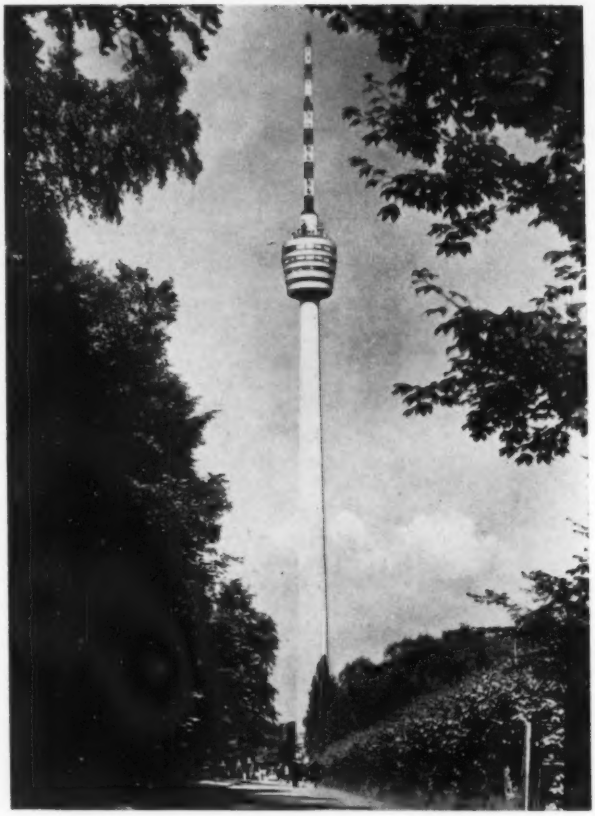
We then inspected three racks of equipment for mobile radio located on the ground floor. There are 10 mobile subscribers in Stuttgart, with an ultimate of 20 possible on one channel. Mobile subscribers have access to all telephones in the public network in Germany as well as foreign countries. In addition, they may be reached on their car telephone while driving through any part of the country, provided they are within range of one of the Post's 30 VHF transmitters. Five-digit numbers are used, and throughout Western Germany, no two subscribers are assigned the same number.

Selective signaling is achieved by transmitting four out of a possible 20 audio-frequency tones. Resonant relays in the mobile set of the called party respond to these tones, causing the subscriber's telephone to buzz. Transmission is at 160 Mc. with different sending and receiving frequencies being employed. We understand that it is quite expensive to obtain this service, as the subscriber must spend about $1,000 for the radio equipment in his car.

The ground floor building also contains the auxiliary power supply, which consists of two big standby diesel generators, and several mercury-jet interruptors which convert battery power into 220 volts ac. The standby generators assure that important equipment, such as the broadband systems, will not suffer any service interruption, during a failure of the commercial power supply. One of the diesel generators is connected to the shaft of a motor-generator set by a clutch mechanism as soon as the power fails. A large flywheel keeps the shaft spinning until the diesel generator can start. Mr. Fritzsche turned the generators on, and the throb of the motors was quite impressive, but we couldn't hear a word he was saying, due to the tremendous noise.

The first floor also contains various other equipment, as well as television transmitting and control equipment for the nation's second TV network. However, litigation over who shall operate the second network has prevented the Post from placing the equipment into operation. The microwave equipment is connected by underground coaxial cable to the multiplexing equipment at the main telephone building in Stuttgart, and to the television transmitters at the tower of the Süddeutscher Rundfunk, or South German Broadcasting Co., located on the next hill.

As unique and interesting as the microwave repeater stations of the Post are, there is nothing to compare with the television tower of the Süddeutscher Rundfunk, and although the tower is only concerned with the broadcasting of radio and television programs to the local area, no mention of Stuttgart would be complete without it. The tower stands on a mountaintop 1,585 feet above sea level, just up the road from the repeater station. Its 692 feet from base to antenna make it the 14th highest man-made structure in the world. The needle-like shaft tapers from a small 35-foot diameter to an even smaller 16 feet.



This 692-foot television tower overlooking Stuttgart is 14th highest man-made structure in the world. Elevator leads to observation platforms and dining rooms located at top of tower.

For 37 cents, anyone can ride up in the elevator to the crow's nest. Two observation platforms atop the crow's nest afford an unobstructed and breathtaking view for miles in all directions. The top two floors of the nest contain restaurant dining rooms, and guests are seated next to the large picture windows. The restaurant can seat 160 persons, while the entire crow's nest will accommodate 600 people. The floor below contains the kitchen, and below that are the TV transmitters. The structure is completely air-conditioned. Begun in July, 1954, the tower was 20 months in construction, and was completed on Feb. 5, 1956.

Two independent power supply systems serve the tower, one for the TV and VHF transmitters, and the other for the elevators, kitchen and warning lights. Since the tower is not far from Stuttgart Airport, aircraft warning lights had to be provided, which would be effective even in poor visibility. Steady and flashing lights are mounted at various heights on the tower, and for bad weather, three rotating beacons are used. Strips of iron in the crow's nest and embedded in the concrete of the platforms and walls provide effective lightning protection, and all railings and metal parts are grounded.

The television tower is one of the most fantastic structures we have ever seen, and no one passing through Stuttgart can afford to miss visiting it.

With sincerest best wishes,

Joel J. Ewen

The Plant Man's NOTEBOOK

By RAY BLAIN, Technical Editorial Director

THE PACIFIC TELEPHONE MAGAZINE recently published some interesting early telephone history. Seventy-three years ago this March, the East shivered in the great blizzard of 1888. A few months before the storm, long-distance telephone service was opened between Boston and New York. Crews of linemen were at work stringing additional wires.

Men of these crews stayed indoors all the first day, waiting for the storm to blow over, but it continued unabated for three more days. Drifts piled up to the eaves of houses. All highway and railroad travel was stalled.

A train near a town was buried in the snow. The telephone men helped the railroad crews take food to the marooned passengers. A telephone test station had previously been established in the hotel where the telephone men were staying. All wires were looped for testing purposes, which resulted in continued communication between New York and Boston.

On the third day, some of the wires failed. Groups of men started out to make repairs. Other crews along the route also began patrolling the line, and repairing scattered wire breaks. In this manner, service was intact between New York and Boston throughout the storm.

All other means of communication between the two cities had failed. The only other route was by telegraph via the transatlantic telegraph cable from Boston to England, then back to New York by another cable.

The *Globe* was the only Boston newspaper then employing the new long-distance service. This paper came out one morning during the storm with headlines saying that its telephone wire was the sole means of communication with New York. It was a real scoop.

•

The National Science Foundation reports that the U. S. government will spend an estimated 9.1 billion dollars for the support of scientific research and development during the fiscal year 1961. The Department of Defense, the Atomic Energy Commission, and the National Aeronautics & Space Administration (NASA) will administer an estimated 90 per cent, or 7.6 billion dollars of the actual research and development budget.

About 8.5 billion dollars is earmarked for actual research and development; and 600 million dollars is allocated for construction of physical facilities. Basic research will account for 10 per cent, or 850 million dollars of the research and development funds.

•

On The Line, issued by HQ Lines Section of the Australian Post Office, reports that white ants have attacked direct buried plastic cable in Western Australia. To overcome this trouble, they have mounted a tank of ant repellent on the cable plow to treat the cable and the surrounding soil as the cable is being installed. About two gallons of the spray are used on each 1,500-foot reel of cable.

We are not certain, but we suspect that the white ants of Australia are similar to the termites which attack buried plastic cable in some sections of this country.

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We note that in some dial switching equipment rooms, the lighting is placed on the ceiling prior to the installation of equipment. When the equipment frames are installed, and the racks filled with cable, most of the light from the ceiling never reaches locations required for maintenance. The maintenance men must then drag an extension light around to perform their work properly.

Other installations have a fluorescent tube mounted on the frames under the cable racks along each side of the equipment aisles. Switches for controlling these lights are usually mounted on the ends of the equipment bays. This is certainly a more satisfactory arrangement, and provides adequate light for ordinary maintenance without the use of an extension cord.

•

An explosion in Maryland, near Washington, D. C., blew apart an outdoor telephone booth. The explosion occurred about 1 a.m., and disturbed all residents within a half-mile radius. When police arrived, they found only two metal uprights that had been part of the booth still standing. Investigators said that they believed someone set off an explosive in the booth, probably in an attempt to open its coin box. There was no indication of human injury. The FBI has made its laboratory and identification bureau facilities available for an investigation.

•

E. I. du Pont de Nemours & Co. recently completed a three-year study of 653 employes who had had their first heart attacks. It was determined that the lower the salary, the more likely the worker is to have a heart attack. These attacks occurred least often among the higher salary groups. Only 5.4 per cent of the attacks occurred when the patients were indulging in unusual physical exertion. Thirteen of the 653 employes studied were women.

"Cross Talk"

If Congress can't eliminate hidden taxes, it should at least do a better job of hiding them.

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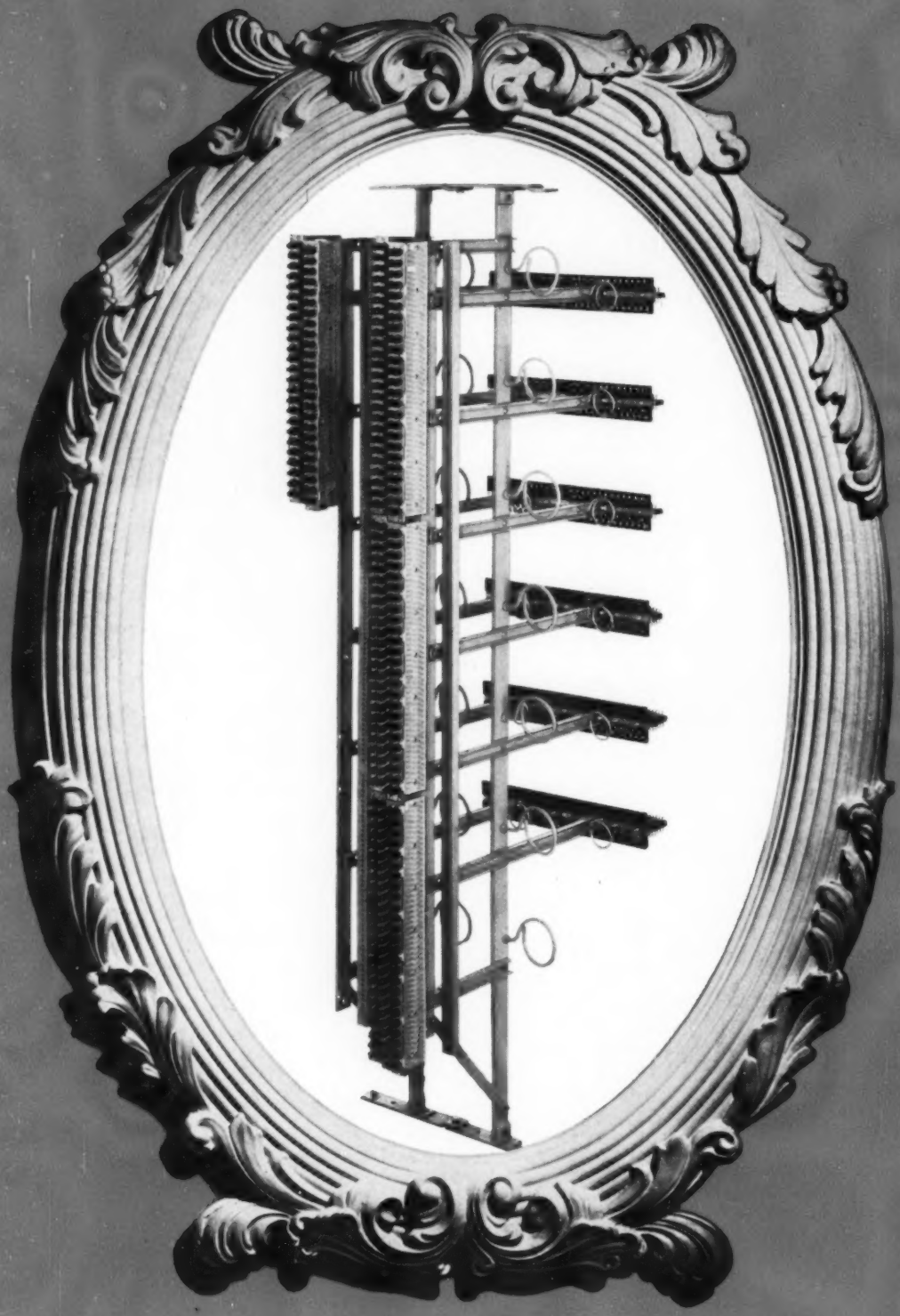
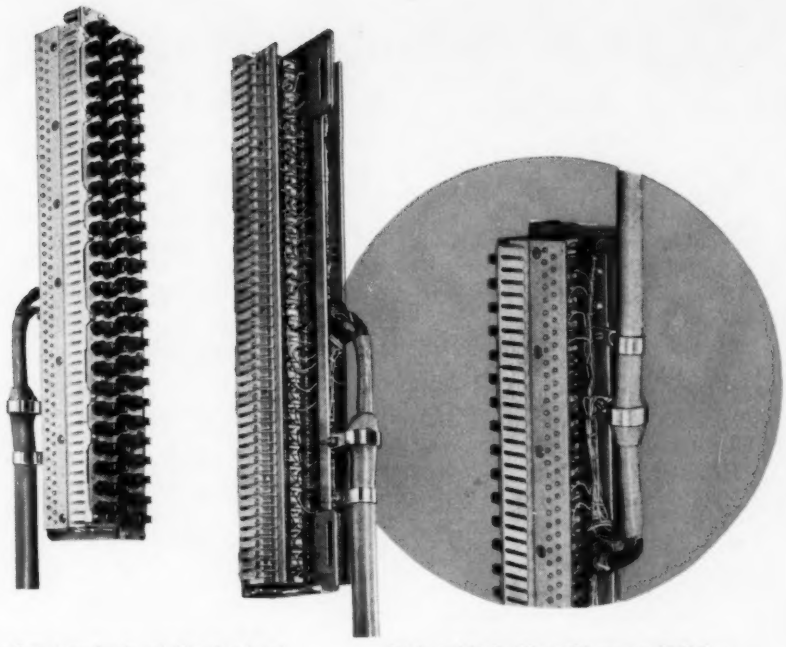
If diet drinks continue to increase in popularity, only dentists will have a need for teeth.



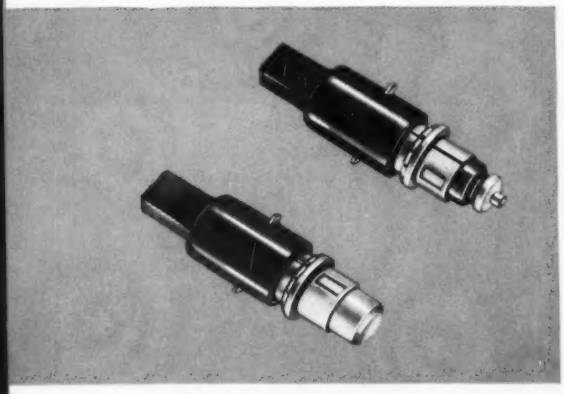
A *Reliable* image of improved main frames

The R300 Connector has a cast resin body, metal faceplate and twistlock inserted protector units. Circuits may be opened without removing the protector units.



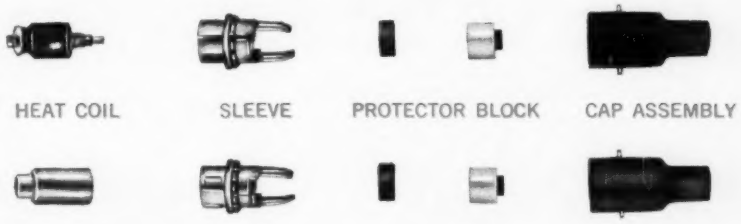
Stub cable is wire wrapped to projecting terminals at the back of the connector and is secured to an aluminum reinforced bar. All R300 Connectors are supplied with mounting brackets suitable for attaching to Main Frame protector bars.

Stub cable is 22 or 24 gauge PVC insulated, available in 101 or 51 pair; it is light, flexible and easy to handle.



Protector elements and contacts are completely enclosed in a dust-free high grade plastic assembly.

Catalog No. 3004 protector unit has a standard central office type heat coil and a .004 carbon-to-carbon air gap protector.



Catalog No. 3000 protector unit has a metallic dummy heat coil for use where heat coil protection is not required.

Reliable Type R300 Connectors and Main Frames are designed for installation in new or existing central office main frame rooms as well as P.B.X., P.A.B.X. and sub-exchanges. Connectors may be ordered in 50 or 100 pair banks with or without cable stub.

Light and compact, the 100 pair connector can be installed by one man in just a few minutes. Unpacking the R300 Connector is also a one-man operation; it is easily removed from a light, strong corrugated carton without the use of tools.

Write for detailed information in Reliable's Product Data Sheet No. 32.

Reliable

ELECTRIC COMPANY • Franklin Park, Illinois

A Symbol of Integrity Since 1909

Fifteen Telephone Company Loans Approved by REA

NEW TELEPHONE loans have been approved by the Rural Electrification Administration amounting to $5,251,000 as follows:

Allied Telephone Co., 1100 Harrington St., Little Rock, Ark.; $550,000; Mar. 21.

This loan will help to improve service for 577 subscribers and to furnish initial service to 582 subscribers. The existing subscribers now receive magneto and common battery service from the Leslie and the Marshall exchanges, which the borrower proposes to acquire from the Standard Telephone Co.

The Allied company plans a new dial central office replacing the existing switchboards at Leslie and Marshall; and a new dial office will be constructed at Big Flat, where no service is now available.

REA loans to Allied will help make possible new and improved service to 10,286 subscribers. Twenty-one of the proposed 25 exchanges are now furnishing dial service to approximately 7,200 subscribers.

•

Perco Telephone Co., Inc., Perryville, Ark.; $555,000; Mar. 21.

With the aid of this loan the company will be assisted to provide initial service to 831 subscribers and to improve service for 355 subscribers. A new borrower of REA funds, and a commercial company, Perco plans to extend its operating area in order to furnish this additional service. The Perco company now serves the existing subscribers through a dial exchange at Perry, and common battery facilities at Perryville.

The borrower proposes to construct a new dial-commercial office at Perryville, a new dial office at Perry, and to create new exchanges and build dial offices at Bigelo and Nimrod. A small portion of these funds also will be used to refinance the borrower's indebtedness.

Joe E. Trower is president of the Perco Telephone Co. and William Trower is manager.

•

Forest Hill Telephone Co., Glenmora, La.; $275,000; Mar. 21.

The company plans to use this loan to help it provide initial service to 420 subscribers in the present service area.

REA loans to the Forest Hill company will assist it to bring new and improved service to 1,373 subscribers. The completed system will consist of the Glenmora exchange which is now furnishing dial service to approximately 1,000 subscribers.

•

Conway-Niangua Telephone Co., Marshfield, Mo.; $60,000; Mar. 21.

With the help of this loan, the company will be aided in providing initial service to 165 subscribers in the Conway exchange.

REA loans to Conway-Niangua will assist it to bring new and improved service to 1,138 subscribers. The proposed system will consist of the Conway and Niangua exchanges which now furnish dial service to approximately 890 subscribers.

•

Rodeo Telephone Membership Corp., Burwell, Neb.; $230,000; Mar. 21.

This loan will help enable the company to serve 241 new subscribers and to make additions to headquarters facilities in Burwell.

Loans approved to this borrower will assist it to provide new and improved service to 1,973 subscribers. The completed system will consist of six exchanges which now provide dial service to approximately 1,790 subscribers.

•

Northeastern Telephone Co., Blair, Neb.; $582,000; Mar. 21.

With the assistance of this loan, Northeastern will be helped to improve service for 825 subscribers and to furnish initial service to 71 subscribers.

About 544 of the existing subscribers now receive common battery service through the borrower's Elgin exchange; and the remaining 281 are served through the magneto switchboard of the Oakdale Telephone Co., which the borrower proposes to acquire.

This new borrower of REA funds is a commercial organization which will build new dial central offices to replace the facilities at Elgin and Oakdale. The Elgin building also will house a small commercial office to handle the two exchanges. In addition, all of the outside plant in this system will be buried. Also, a portion of the loan funds will be used to refinance the borrower's indebtedness.

E. C. Hunt Sr. is president, and Robert C. Hunt is manager of the Northeastern Telephone Co.

The South Canaan (Pa.) Telephone Co.; $425,000; Mar. 21.

The new borrower of REA funds plans to improve service for its 720 subscribers and furnish initial service to 234 subscribers. The company presently furnishes magneto and common battery service to its subscribers through central offices at Waymart and South Canaan.

A new dial office will be constructed at South Canaan; and new and larger dial facilities installed in the present building at Waymart. The existing central office building at South Canaan will be remodeled for commercial office use.

Eugene Shaffer is president and Eugene M. Cook is manager of the South Canaan Telephone Co.

•

Dakota Cooperative Telephone Co., Irene, S. D.; $210,000; Mar. 21.

The company plans to use this loan to help it furnish initial service to 435 subscribers in the present service area. Facilities required include additional central office equipment.

REA loans to this borrower will help make possible new and improved service to 3,783 subscribers. The 12 exchanges of the system are in operation.

•

Tri-County Telephone Co., Tenaha, Tex.; $210,000; Mar. 21.

The new borrower of REA funds, a commercial corporation, plans to improve service for its 294 subscribers and furnish initial service to 227 subscribers. The company presently furnishes magneto service to its subscribers through a central office at Garrison.

The borrower proposes to replace the Garrison switchboard with a new dial central office. Commercial office facilities will be in rented quarters in Tenaha.

James M. Cozort is both president and manager of the Tri-County Telephone Co.

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North Central Telephone Cooperative Corp., Lafayette, Tenn.; $443,000; Mar. 23.

It is the intention of the borrower to use these funds to aid in furnishing initial service to 299 subscribers in the present service area; provide a higher grade of service for the existing subscribers; and to install mobile radiotelephone equipment for system maintenance.

REA loans to North Central will help make possible new and improved service to 4,755 subscribers in Tennessee and in Kentucky. The 10 exchanges

of the system are now in operation serving approximately 4,300 subscribers.

•

Brazos Telephone Cooperative, Olney, Tex.; $85,000; Mar. 23.

It is planned that these funds will be used by the borrower to help the company to complete construction of its authorized system.

Loans to Brazos Cooperative will help make possible new and improved service to 1,075 subscribers. The five exchanges of the system are now in operation serving approximately 750 subscribers.

•

Lamar County Telephone Co., P. O. Box 223, Millport, Ala.; $598,000; Mar. 24.

This new borrower of REA funds plans to furnish initial service to 845 subscribers and to improve service for 226 existing subscribers. There will be some service in fringe areas. The company now furnishes magneto and common battery service to its subscribers through central offices at Kennedy and Millport.

A new dial office will be constructed at Kennedy, and a combined dial-commercial office at Millport. The borrower is considering service without toll charge between the two exchanges.

R. E. Blaylock is both president and manager of the Lamar County Telephone Co.

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Chickamauga (Ga.) Telephone Corp.; $793,000; Mar. 24.

A new borrower of REA funds, and a commercial corporation, Chickamauga plans to use these funds to aid in serving 1,439 subscribers who now have no telephones, and to improve service for 1,411 subscribers. Provision also is made in the loan to furnish a higher grade of service for the existing subscribers. The company now provides service through dial central offices at Chickamauga and High Point.

The dial-commercial office building at Chickamauga will be retained in the expanded system, but new and larger dial equipment installed. Both the central office, and the dial facilities at High Point will be used in place. A portion of these funds will be used to refinance the borrower's existing indebtedness.

H. B. Vaughn is president, and B. T. Beatty is manager of the Chickamauga Telephone Corp.

•

Sunflower Telephone Co., Dodge City, Kan.; $142,000; Mar. 24.

With this loan, the company will be helped to furnish initial service to 155 subscribers and to improve service for 124 subscribers. As a nucleus for the additional service, the borrower plans to acquire the Collyer Telephone Co. which now furnishes magneto service to the existing subscribers.

A new dial central office is scheduled to replace the existing switchboard at Collyer.

REA loans to Sunflower will help make possible new and improved service to 2,722 subscribers in Kansas; and in Colorado. The system, when complete, will consist of 10 exchanges. Six of them, all in Kansas, are now furnishing dial service to approximately 1,970 subscribers.

•

Nocona (Tex.) Telephone Co.; $93,000; Mar. 24.

The borrower plans to use these funds to help it enlarge its combined dial office and headquarters buildings at Nocona. The remainder of the funds will be used to complete the authorized system.

The two REA loans to Nocona will help make possible new and improved service to 2,239 subscribers. The subscribers will be served through exchanges at Bonita, Nocona, Ringgold and Spanish Fort, all of which are under construction.

Barran Heads Call for U.S. C. of C. Citizenship Meet

General Telephone Co. of the Northwest, Spokane, Wash., reports that the Mar. 10 program of the U. S. Chamber of Commerce's 1961 Aircade for Citizenship Action, presented in that city, was a distinct success from the standpoint of interest and attendance. The company's president, A. J. Barran, was general chairman for the Spokane meeting, and 700 businessmen from Washington, Idaho and Montana were on hand.

The 1961 U.S. Chamber Aircade for Citizenship Action follows a pattern of "sounding the signal for America's businessmen to assemble" for an exchange of ideas on important issues of the day. As when our nation was young, the ringing of a historic town crier's bell has called the meetings to order in each of 12 cities.

The chamber reports that more than 34,000 businessmen and business organizations have attended the 48 previous Aircade meetings, and obtained useful information and guidance on how to be more articulate in making their views known to the country's elected representatives.

Arthur H. Motley, president of the U.S. Chamber, and publisher of *Parade* magazine, heads the Aircade team, and Arch N. Booth, executive vice president of the national chamber, serves as discussion leader and moderator.

A. J. Barran (right), president of General Telephone Co. of the Northwest, Spokane, Wash., poses with Arthur H. Motley, president of the U.S. Chamber of Commerce, on occasion of national chamber's 1961 Aircade for Citizenship Action meeting held in Spokane, Mar. 10. Mr. Barran served as the general chairman for the meeting in that city.

Outstanding business executives and national chamber staff specialists on legislative issues act as panelists, answer questions directed to them during the Aircade meetings, and furnish supplementary material for the various discussions.

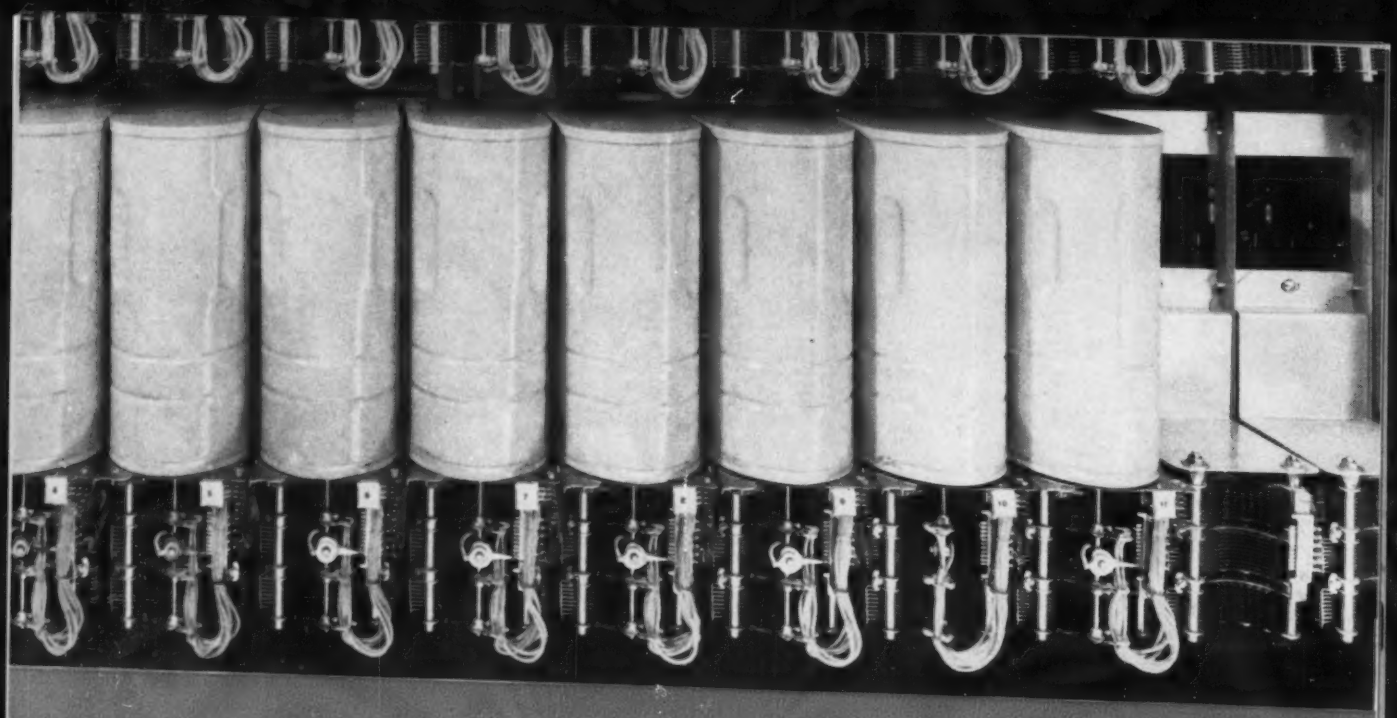
Among "prime topics" selected for discussion during the 1961 Aircade are: the national chamber's "Economic Understanding," "Political Participation," and "Congressional Action" programs.

Specific issues for discussion have included:

Tax reform.
Federal subsidies for education.
Depressed areas.
Urban renewal.
Medical care for the aged.
Federal wage-fixing.
Federal spending.
Inflation control.

Universal Classroom

"Experience keeps a dear school, but fools will learn in no other."—BENJAMIN FRANKLIN.



Strowger

"That's right, Tom...

is easier to maintain"

Maintenance is an important factor to the buyer of dial switching equipment. That's why Arnold Pearson* always stresses the simple construction of Strowger Automatic. He explains that Strowger operates on a step-by-step principle which keeps repairs and adjustments to a minimum. But that's only part of the story...

Arnold points out that all Strowger switching components are positioned so that the circuit operation can be traced visually. He also mentions the fact that Strowger wearing parts are few and simple to replace. This speeds training of maintenance men and makes trouble-shooting easy!

Are you planning a dial conversion? Then get in touch with us. We'll send *your* AE representative in to help you solve your dial conversion problems. He can give you the complete Strowger story. And, he can provide you with information on how to finance Strowger dial equipment. To contact your AE representative, just write Automatic Electric Sales Corporation, Northlake, Illinois. In Canada, Automatic Electric Sales (Canada) Ltd., 185 Bartley Drive, Toronto 16.

**District Manager, Southeastern District, Automatic Electric Sales Corporation*

AUTOMATIC ELECTRIC

Subsidiary of

GENERAL TELEPHONE & ELECTRONICS

GENERAL SYSTEM

Courts and Commissions

Credit Reserve in Amount Equal to Savings, Says CPUC

The California Public Utilities Commission, it was reported on Mar. 30, by a vote of 3-to-2, issued a new order relating to accelerated depreciation savings accruing to utilities (TELEPHONY, May 21, 1960).

In its most recent order, the commission will allow utilities to "credit depreciation reserve accounts with amounts equal to the tax differential, or savings resulting from the use of liberalized depreciation."

Last year, the commission refused to reconsider a ruling that utilities must pass on to their subscribers tax savings derived from the use of accelerated depreciation.

Under the provisions of a 1954 federal law, utilities are permitted to write off investments in new plant, and similar expansion, at about twice the normal rate of depreciation in the first years of depreciating new plant. (Later, of course, this plant is depreciated at progressively lower rates.) The California commission ruled that the accelerated depreciation "savings" must be passed on to the subscriber.

The plea of the companies for "normalization" of taxes was rejected. California utilities asked to be permitted to charge to operating expenses the taxes which they would have paid, if it had not been for deferments permitted by the accelerated depreciation method. It was the contention of the companies that this arrangement should be permitted because the taxes deferred one year would have to be made up later, and so-called "normalization" would even out the tax payments.

In the most recent decision, the commission's president, Everett C. McKeage, and Peter E. Mitchell dissented, saying the order is confusing, and will deny the rate-paying public the benefit of millions of dollars in savings. The dissent further contended that the commission's order, by permitting the amount of deferred taxes to be transferred to depreciation reserves, will give the utilities the use of millions of dollars in tax-free and interest-free money for expansion and other purposes.

Also, the savings cannot be declared surplus, or distributed to stockholders.

Dissenting members of the commission declared that the new order proceeds "upon the misconception" that income taxes are a special form of expense. They said income taxes actually are no different from any other expense to the utility, such as labor and materials, and the utility is entitled to charge only those taxes "lawfully assessed by the taxing authority and paid by the utility."

Commissioners C. Lyn Fox, George C. Grover, and Frederick Holoboff issued a supplemental statement, in which they asserted that the commission's order provides assurance that the stockholders will not receive the benefit of the tax savings involved.

They conceded that it may precipitate rate increase applications of companies whose rate of return has fallen off for other reasons, but contended the new order allows the commission to consider the cases on a sound basis.

Commissioner Fox said the new method would reduce rates by reducing the base on which the rates are predicated.

Three Missouri Companies Seek Sales Approvals

Three applications for authority to sell have been filed with the Missouri Public Service Commission as follows:

William and Lizzie Ott have asked for permission to sell the Arcola exchange to G. M. Porter, d.b.a. Greenfield Telephone Co. The Greenfield company has asked to operate in the Arcola territory.

Laclede Telephone Exchange desires to sell its property to the Swan Lake Telephone Co.

The Swan Lake company has also asked to purchase the Mendon-Sumner Telephone Co., Mendon.

Set Rate Hearing in Wis.

The Wisconsin Public Service Commission on Apr. 6 was to have heard the application of the Dodge County Telephone Co. for authority to increase rates at its Reeseville exchange.

FCC to Examine Problems In Space Communications

The Federal Communications Commission on Mar. 29 began further inquiry into problems of regulating commercial space communication systems (TELEPHONY, Mar. 18). In this move, Commissioners Minow (chairman), Hyde, Bartley, Lee, Craven, Ford and Cross will examine administrative and regulatory problems relating to future authorization of commercially operated space communication systems.

The FCC, at the same time, invited comments by May 1 to these specific questions:

(1) Assuming the authorization of a single or limited number of satellite communication systems will best serve the public interest, what plan of participation is best designed to provide equitable access to, and non-discriminatory use of, satellite communication facilities, by existing and future international communication common carriers and others?

Should such a plan include participation of manufacturers of satellite communication and launching equipment?

Specify in detail the features of the plan including the financial and operational arrangements related to the ownership and use of the system.

(2) Specify in detail, with supporting briefs, how such plan would comply with existing laws and policies (particular attention being given to Sections 313 and 314 of the Communications Act and pertinent anti-trust statutes).

(3) Specify in detail, with supporting briefs, the provisions of the Communications Act and Commission Rules and policies which are relied upon as authority for the commission to prescribe such plan to the exclusion of other plans and to require licenses or other authorizations to be obtained thereunder; or, in the absence of such authority, specify in detail the changes recommended in the laws and policies in order to implement such plan.

(4) Specify in detail the extent to which each of the various parties involved in the systems covered by such plan would be subject to regulation by this commission as common carriers or otherwise.

(5) State whether you intend to participate in such plan and the nature and extent of such participation.

In view of the nature and widespread interest in this subject, the commission requested that 40 copies of each such response be filed.

In its Notice of Inquiry the commission stated in part:

"It is the expressed policy of the United States that activities in space should be devoted to peaceful purposes for the benefit of all mankind. The earliest possible realization of a commercially operable point-to-point space satellite communication system represents one of the most significant, practical, and beneficial means of implementing this vital national policy.

"The commission, in furtherance of its statutory responsibilities and in an effort to facilitate the advancement of the nation's vital space policy, has been engaged for some time in an attempt to assess the nature of the many varied and complex problems associated with international communications via space satellites.

"Present studies indicate the possible arising of conditions and circumstances which appear likely to present certain problems with respect to the authorization and operation of satellite systems for communication services between the United States and foreign points. These problems require an assessment of the commission's administrative and regulatory functions and authority with respect thereto.

"A number of industry organizations, including existing international communication common carriers, have expressed an active interest in the establishment and operation of space satellite relays for international public communications services. While their views differ with respect to technical characteristics, it has been suggested by some that a single integrated system, or a limited number of independent systems, offers the most feasible means of successful operation within the foreseeable future.

"Such view appears to be based on the premise that a multiplicity of commercial satellite systems appears unlikely in view of the substantial capital investment which will be necessary, the limitations which may be required by efficient spectrum management considerations, both national and international, and a possible inability to justify economically more than a limited number of systems in the near future." The FCC went on to say:

"The United States has, of course, maintained a policy of fostering beneficial competition among privately owned and operated international communication common carriers. However, assuming that the organization of a single or limited number of satellite systems will best serve the public interest, there is a question as to the extent to which this will be consistent with the maintenance of competition in international communications, and with the anti-trust laws and policies of the United States.

"The purposes of this proceeding therefore are to ascertain the various methods by which participation in such systems by all interested present and future international communication common carriers and others can best be effectuated on an equitable, non-discriminatory, and lawful basis.

"In instituting this proceeding the commission wishes to make it perfectly clear that it is mindful of the scope and complexity of the international problems inherent in the field of space communications. It is recognized that international cooperation and agreement on frequency allocations and other essential matters are required if a truly useful and efficient satellite communication system is to be realized.

"The commission is also fully cognizant that before a fully operational commercial satellite communication system can be established, a substantial amount of research and development remains to be completed."

"However, it is the commission's opinion that consideration of the questions involved in this proceeding in advance of the resolution of these other related problems will hasten the establishment of international communication via space satellites."

This inquiry differs from the pending inquiry in Docket 13522 which deals with space frequency needs and sharing of space communication bands with other services, the FCC stated.

SAFETY THUMB TACKS

By John A. Bracken

Bits of safety reasoning, either pointed or flat, depending upon the way you look at them.

•

"*Safety*—rates top priority."

•

"The best way to handle an accident is to prevent it—practice *Safety*."

•

"Accident rates decrease—as *Safety* is increased."

•

"Practicing *Safety*—is the first line of defense against accidents."

Nebraska Commission Change

The Nebraska legislature on Mar. 21 voted favorably 38-3 to submit to state voters next year a proposed constitutional amendment under which the railway commission could have from three to seven members, elected by districts (TELEPHONY, Mar. 18). Under the present constitution, the commission is composed of three members elected statewide.

Approve Illinois Bell EAS With 7 General Exchanges

The Illinois Commerce Commission on Mar. 24 adopted an order allowing Illinois Bell Telephone Co. to provide extended area service between its Rockford exchange and several nearby communities.

The order establishes the two-way EAS between Rockford and the General Telephone Co. of Illinois' exchanges at Belvidere, Byron, Rockton, Stillman Valley, Cherry Valley, Poplar Grove and Winnebago (TELEPHONY, Nov. 12, 1960).

However, the commission denied the Illinois Bell company's application for EAS from Rockford to the Northern Illinois Telephone Co.'s exchanges at Seward, Pecatonica and Durand (TELEPHONY, Aug. 6).

The Northern Illinois company had testified that toll calls made to Rockford by Northern's subscribers in the three communities would have declined, because the subscribers would have arranged to have their calls originate in Rockford, toll-free under the proposal.

The commission also did not allow establishment of EAS between Rockford and Illinois Bell's South Beloit exchange.

Ed O. Johnsen, Rockford manager, said it will require about two years to put the new service into use.

FCC Approves Tex. Sale

Sale of the Chapel Hill (Tex.) Telephone Co. to the Southwestern Bell Telephone Co. has been approved by the Federal Communications Commission, Mrs. Jimmie McNeil, owner of the Chapel Hill company has announced. The exchange serves 35 subscribers.

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FEDERAL AVIATION AGENCY relies on 5,174 miles of Collins microwave...

In a program to increase airways safety and traffic capacity, the Federal Aviation Agency has been building up its nation-wide network of surveillance and control radar. To date, Collins has provided 2,775 miles of microwave for remote control of these facilities, as well as communication and relay of radar pulse data. And by the end of this year another 2,399 miles of Collins microwave will have been added to the network. Collins was selected for this critical task because it could do the job economically, with equipment of proven quality and reliability. For information on how Collins may help you solve your own particular communications problem, contact Collins Radio Company, Texas Division Sales, 1930 Hi-Line Dr., Dallas 7, Tex.

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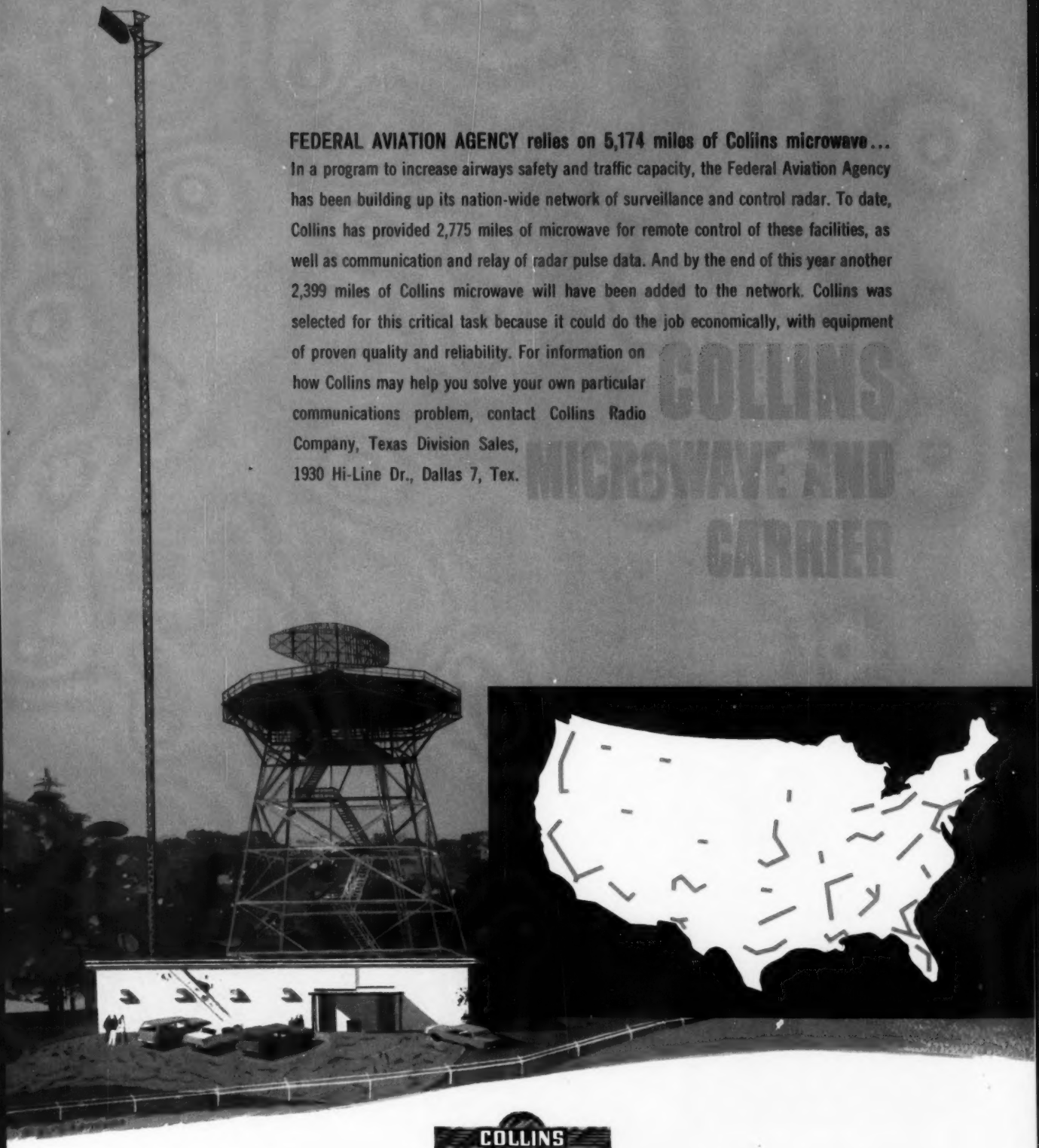

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GT&E Develops Solid Panel That Produces Moving, Lighted Image

AN ELECTRONIC panel less than one-half inch thick that utilizes a new principle to produce a moving, lighted image was described on Mar. 20 by a scientist of General Telephone & Electronics Laboratories Inc. at the international meeting of the Institute of Radio Engineers.

Commenting on potential uses of the new device, Dr. Herbert Trotter Jr., president of the research subsidiary of General Telephone & Electronics Corp., said, "It would be premature to speculate at this time on specific future applications. A great deal of research and engineering work remains to be done before the new development can be applied commercially."

One of the major advantages of the device, according to Dr. Trotter, is its ability to display an image on a thin, flat panel. Conventional electronic display devices use a cathode ray tube to produce an image.

The inventor of the device, Stephen Yando of GT&E Laboratories at Bayside, N. Y., described the new development as "an entirely new combination of electrical phenomena that have been in general use for a number of years — piezoelectricity and electroluminescence."

Piezoelectricity is the phenomenon exhibited by certain materials that expand in one direction and contract along other directions when an electric field is applied. Conversely, when mechanical stresses are applied to a flat plate of piezoelectric material, electric charges are developed on the face of the plate.

Stephen Yando exhibits electronic panel that utilizes new principle to produce a moving, lighted image.

Electroluminescence involves the excitation of a phosphor coating on a thin, flat panel through the application of an electric field, thus causing the phosphor coating to give off light.

The device consists of a thin, flat panel composed of a "piezoelectric" ceramic material, one surface of which is coated with a layer of electroluminescent material. When voltage signals are applied to several electrodes on the edges of the flat piezoelectric panel, traveling acoustical waves are introduced into the ceramic material. Electric fields which accompany these acoustical waves interact with the electroluminescent layer to produce a "spot" of illumination on the panel. The position of the "spot" is controlled by varying the relative timing of the electrical pulses to produce an electronic wave pattern. The light intensity of the "spot" is modulated by an electric field applied to a transparent conductive layer covering the electroluminescent layer.

As suitably timed input signals are applied, a series of light spots or lines are produced which can form an image. By varying the timing of the signals, the image can be made to move about the panel. In certain applications, only a dot of light will be required. Nonlinear resistance material can be included in the panel to eliminate background light, leaving only the desired display.

In its present stage, the device, according to Dr. Trotter, appears to have its earliest potential use in military and laboratory devices where the production of illuminated lines and dots is needed in electronic systems and equipment.

"This new development is a major outgrowth of the laboratories' work in electroluminescence, which is the first new light source in 50 years," Dr. Trotter said. He pointed out that Sylvania Electric Products Inc., a GT&E subsidiary, announced the first commercial application of electroluminescence 10 years ago with the introduction of "Panelescent" lighting, a flat panel of light used for many types of illumination.

Obituaries

P. A. LASLEY, 75, executive secretary and general counsel of the Arkansas Telephone Association, died on Mar. 24 in a Little Rock hospital after a short illness. He was a partner in the law firm of Lasley & Lovett, Little Rock.

"Judge," as he was affectionately known throughout the telephone industry, was the author of the bill creating the Department of Public Utilities, now the Arkansas Public Service Commission, and was its first chairman under the administration of the late Governor Marion Futrell. He had specialized in the field of utility law and was well known throughout the South.

He was born in Pocahontas, Ark. in 1886, and was a graduate of old Bethel College, Russellville, Ky. He studied law in his father's law office, and was admitted to the bar in 1909. He was a member of the Pulaski County, Ark., and of the American, and Federal Power Bar associations.

Judge Lasley, the late Gus Lane of Russellville, John Carter of Smackover, and representatives of the Southwestern Bell Telephone Co. were responsible for the first loans made to Arkansas Independents in 1950 that paved the way for the accelerated progress the state has made in dial conversions and station gains.

Survivors include the widow, one daughter, a brother, a sister, and two grandchildren.

•

THOMAS BARTON BAIRD, 75, of Atlanta, Ga., southern representative of the L. M. Berry Co., telephone directory advertising company, and retired treasurer of the Southern Bell Telephone & Telegraph Co., died of a heart attack on Mar. 23 in Miami, Fla., after arriving there for a fishing trip.

A native of Clinton, Ia., he began his telephone company career in 1901 in Jackson, La., as a night operator. He later held positions in Kentwood, New Orleans, LaFayette, and at Shreveport.

Mr. Baird became district manager at New Orleans for Southern Bell in 1912, and later was district manager at Birmingham. He became Alabama manager in 1930, and moved to Atlanta as Georgia manager in 1933. He served as Kentucky manager in 1937, and as Tennessee manager in 1938.

In 1943, Mr. Baird returned to Atlanta as general commercial manager. He was elected to the post of company treasurer in 1947. Retirement came in 1949, after he had been with the company for 48 years.

Surviving are the widow; two daughters, Mrs. Frank Farris Jr. of Nashville, Tenn., and Miss Cecilia Baird of Atlanta; a sister, Mrs. Laura B. Villars of New Orleans; two brothers, Vernon Baird of Covington, Va., and William R. Baird of New Orleans; and a granddaughter, Geny Farris of Nashville.

Hawaiian Company Sets Up Marketing Department

Hawaiian Telephone Co. has established a general marketing department with Robert S. Lowrey as its head.

"The new department was formed to meet the growing demand for specialized communication facilities by large

R. S. LOWREY

and medium businesses, the government and the military in Hawaii," said J. Ballard Atherton, company president.

Mr. Lowrey was succeeded as general traffic manager by Rolland W. Kilburn, general plant supervisor.

R. W. KILBURN

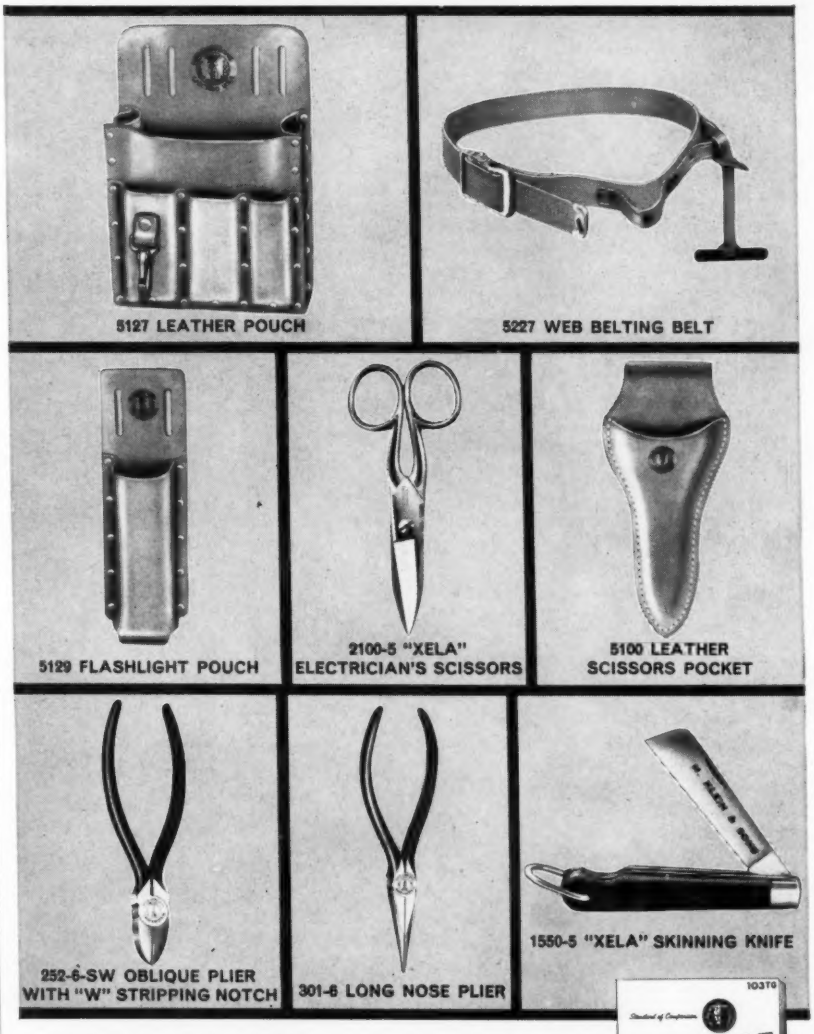
Mr. Lowrey joined the company in 1934 as a student radio operator. He was manager of the Hawaii Island system and served as Oahu Island plant manager, chief engineer, and executive assistant to operations vice president, Douglas S. Guild, before his appointment to the traffic post in 1958. A graduate of Punahou School in Hono-

KLEIN PREFERRED BY ELECTRICIANS AND INSTALLERS

If you know Klein for pliers, climbers, grips and other tools, you will be interested in the many other products in the complete Klein line, such as those illustrated.

In leather goods, Klein has been supplying the largest utilities for years with tool belts, safety straps, tool pockets and other equipment designed for maximum safety . . . longest life.

Klein knives and scissors are specially designed for electricians and built to stand hard usage.


5127 LEATHER POUCH
5227 WEB BELTING BELT
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2100-5 "XELA" ELECTRICIAN'S SCISSORS
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lulu, Mr. Lowrey attended the Harvard Advanced Management Course in 1954.

Mr. Kilburn became associated with the company 29 years ago as an equipment engineer. He worked at various engineering and plant positions before his appointment as general plant supervisor three years ago. Mr. Kilburn is a graduate of Punahou School and attended the University of Hawaii. He also attended the Public Utilities Program at the University of Michigan.

Wanamaker, Early Telephone User, Rings Up 100 Years

The date of Apr. 8 marks the 100th anniversary of the John Wanamaker Store in Philadelphia, one of the first retail establishments in the U.S. to use telephone service on a large scale.

For the major portion of this span of years, Wanamaker's has had telephone service, for in February, 82 years ago, the telephone was first used by the store as an aid in the transaction of business. Sixty-one years ago, the first private branch exchange with 25 stations, was established in the store. By the end of May, 55 years ago, Wanamaker's had inaugurated continuous day and night telephone service, then unique among retail stores.

The colorful store, one of many distinctions, and a point of interest on the sight-seer's tour of Philadelphia, has expanded its use of the telephone until today, it has about 1,000 telephones for incoming and outgoing calls, and a comparable number of house telephones. Its telephone traffic has increased to the point where, in 1959, for example, about 4 million calls were handled over the store's 150 lines.

In 1879, the year that the Bell Telephone Co. of Philadelphia was organized, the city's first telephone directory appeared, and among the first 269 subscribers listed, was the Wanamaker store.

Following establishment of day and night telephone service in 1905, Wanamaker's private telephone exchange grew, and by June 8, 1906, the switchboard was staffed by 12 operators, and nearly 19,000 miles of telephone wire was connected in the store, reported, at that time, to be the largest store telephone system in the world.

John Wanamaker, the store's founder, early expressed an interest in the telephone and sought to encourage its use. When the Bell Telephone Co. representatives were striving to enlist public interest in the invention as more than a toy, Mr. Wanamaker staged a demonstration in his home and invited a large group of prominent citizens to be present.

John Wanamaker, founder of Philadelphia retail store bearing his name. Wanamaker retail progress through the years has often been buttressed by its night and day telephone service introduced in 1905. Wanamaker store is, this month, celebrating its 100th anniversary.

Unfortunately, on that occasion, one of the Bell men, perhaps, over-zealous in preparing the demonstration, tripped over a wire and upset the battery, which spilled damaging acid on Mrs. Wanamaker's parlor carpet, and left a gaping hole as the hostess and her guests watched with dismay.

Despite this unlucky incident, Mr. Wanamaker supported the new invention, and provided customers of his store with the convenience of telephone service.

As Wanamaker's rings up 100 years, the founder and store's connection with various history-making merchandising techniques and customer services is recalled. At Christmas, 1878, while alerted police patrolled the street outside the store to protect the public, Wanamaker's turned on its first electric lights, using another revolutionary invention. Light filled the display windows, thus giving at an early date impetus to retail point-of-sale appeal.

The growth of service, as in other American industry and business enterprise, has been basic to the Wanamaker idea of "selling satisfaction" to the customer. To publicize the store and its merchandise, Mr. Wanamaker pioneered sedate advertising, and won himself for that day, the title, "Father of Modern Advertising."

Historic figures, including Gen. U. S. Grant, who complimented Wanamaker with the remark, "It takes as much generalship to organize a business like this as to organize an army!" visited the merchant.

The Wanamaker name, through the years, was identified with retail progress, and tied in with the cultural life of Philadelphia. On Wanamaker's auditorium stage, concert artists, such as Leopold Stokowski and others, have performed, authors, and many celebrated persons have appeared. The store also boasts a large organ, dedicated in 1911 by President William H. Taft, and in the Grand Court of the store, Philadelphians and visitors meet near a bronze eagle installed by the founder, and preserved as a memento of the St. Louis World's Fair of 1904.

In a century of selling so much satisfaction at Wanamaker's, the telephone has played a significant part.

SBT&T's Gilmer Says 60's Earnings Must Be Adequate

Ben S. Gilmer, president of the South's most far-flung public utility told the Southeastern Electric Exchange in a speech at Boca Raton, Fla., that "the task of financing utility growth ahead is a greater challenge than any so far met by utilities in the postwar economy."

Mr. Gilmer, president of the nine-state Southern Bell Telephone & Telegraph Co., predicted before the electric industry people at their annual convention that the 1960's decade will require as much expansion of utilities facilities in the South as did the 1950's.

Very large capital investment sums must be raised by utilities in the South for the expansion that will be needed for the region's continued over-all growth and progress, Mr. Gilmer declared.

This comes, he added, at a time "when the supply of available capital is strained by unprecedented world-wide demands for development and expansion funds. Monetary authorities generally expect the world-wide shortage of investment capital that exists today to continue for many years. Capital can be accumulated only as savings out of production, and this will be done in increasing amounts only when there is an increased incentive to save."

Meeting successfully the challenge to raise the necessary investment funds will require "improved inducement for capital attraction," Mr. Gilmer declared. With competition increasing for investment capital generally, and with utilities having to compete against non-regulated, non-utility businesses for the investors' dollars, utilities will require earnings that are "broadly comparable to those of other well-managed progressive companies in the non-utilities, non-regulated field." They are too far below (them) today, Mr. Gilmer said. He declared:

"We in the utility field have a grave obligation to see that our earnings are adequate to keep us in a healthy operating condition and able to furnish the best, most progressive and expanding service.

"During the 1960's, our ability to obtain the capital we in the regulated field are sure to require for public service will depend on our obtaining earnings broadly comparable to those of other well-managed, progressive companies. The margin of safety in terms of stability of earnings heretofore conceded automatically to any business designated 'regulated utility' is ever becoming less and less real. . . ."

Gilmer carried the comparisons of utilities with non-utilities further and referred to "new competition which we in the utility field must face." He said, "Not only must we compete as always in the open market for capital. We must continue to compete for good employes and for managerial talent. In addition, we must compete as never before for the customer's dollar. Today we must depend much more on the results obtained by aggressive marketing of optional or luxury items as compared to our past heavier reliance on basic services."

Citing statistics, Mr. Gilmer declared that "the best earning companies, whether regulated or not, do the most for consumers, employes and investors, and in the long run, good earnings are in the best interest of all three.

Ditto Resigns, T. C. Harris Successor at Trans-Alaska

The resignation of James V. Ditto as vice president and general manager of Trans-Alaska Telephone Co., Anchorage, was announced on Mar. 23 by Kenneth J. Kadow, chairman of the board.

Mr. Ditto plans to enter private business in Alaska following a family vacation trip outside.

His successor is Thomas C. Harris. Mr. Harris also was elected vice president and general manager of Communications Engineering, Inc., an associated company.

Mr. Harris has resided in Alaska for the past 10 years. Prior to joining Trans-Alaska, he was employed by Federal Electric Corp.

Trans-Alaska Telephone Co. now operates exchanges in 11 Alaskan communities. Extension of facilities and operations into other areas currently is under study.

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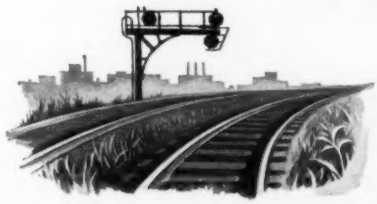

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News on New Products

LUMINOUS DIAL TELEPHONE — ITT Kellogg recently announced its new, compact "Cinderella" telephone, which features a slim oval base that takes up half the area of a standard table-top

telephone. Its over-all design is also smaller, with longer, lower lines that give it a modern decorator appearance. The "Cinderella" is available in white and pastel colors.

The "Cinderella" telephone features a luminous dial, which gives off a soft glow making it easily seen in the dark. When the handset is lifted, the dial area lights up brightly, enabling the user to dial without turning on a room light.

The "Cinderella" can be used not only as a bedroom extension, but also as a primary or main station telephone. Request NP1589.

•

FIBRE CONDUIT—A new fibre conduit, said to have better weathering resistance, and which travels and joins better, has been introduced by the Orangeburg Mfg. Co., division of The Flintkote Co.

This new conduit, Klean-Kote Orangeburg fibre conduit, has a tough, nonbrittle protective coating, the company reports, for clean and safe handling in transit, storage or installation.

H. J. Robertson, Orangeburg president, who made the announcement, said this improvement is expected to broaden the use of fibre conduit as underground raceways for telephone and electric cables.

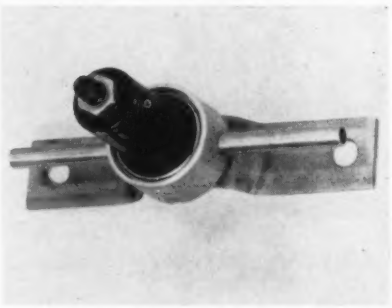
Mr. Robertson said the improved Klean-Kote conduit, which is immune to electrolytic action and resists the corrosive action of acids or alkalies in soils

as well as salt water, sewer gases, oils and greases, is available at no added cost. Request NP1590.

•

RELIEF VALVE — A relief valve which automatically bleeds excess air from pressurized toll cables into exchange cables, while maintaining a desired minimum pressure in the former, has been announced by G. W. Dahl Co., Inc.

Developed in collaboration with a telephone company, this unit is reported to maintain adequate pressure in the



toll cable to protect it, even though the connected exchange cables may leak or bleed off.

The relief valve consists of a brass body (mounted on an offset bracket) which has an anodized aluminum bonnet containing a silicone diaphragm, a spring-loaded ball and a spring-tension adjusting screw and locking nut. Installation, Dahl says, is simple, the pressure relief valve being located in the ½-inch lead pipe connecting the subject cables . . . with the "in" side of the valve directed toward the pressure source.

Depending on the temperature of the atmosphere, these relief valves are set to 5½ to 6 psi in the toll cables to bleed off to the exchange cables. Pressure in the exchange cables is 10 psi at maximum efficiency. When a leak occurs in the exchange lines, it bleeds out of the toll cables but only to 6 psi . . . keeping toll cables pressurized, the manufacturer states, even at the expense of exchange cables. Request NP 1591.

•

NAMEPLATES — Self-adhesive nameplates, mounted on dispenser cards for fast, easy application, are products announced by W. H. Brady Co. The nameplates are said to be nominal in price.

Brady manufactures two different types of self-adhesive card mounted nameplates; aluminum foil and polyvinyl chloride. Brady aluminum foil nameplates are reported to be comparable to other types of metallic nameplates for appearance, permanence and physical properties. Made of 3-mil thin aluminum foil material, they are claimed to resist solvents, oil and dirt. They are heat-resistant to 350 degree F. Printing is permanently debossed in the nameplate. These nameplates cannot be removed and re-applied without evidence of tampering, Brady states.

TELEPHONY PUBLISHING CORP.
608 S. Dearborn St.
Chicago 5, Ill.

Please have the manufacturer send me without obligation the literature indicated by the following numbers:

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NP1593_____; NP1594_____; NP1595_____; NP1596_____.

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4/8/61

Brady card/mounted vinyl nameplates are used where permanent color identification is desired. Made of 6-mil vinyl plastic, the nameplates are said to conform to virtually any surface—flat, curved, irregular or compound-curved. The printing on these nameplates is claimed to be unaffected by oil, moisture, abrasion or weather. These card mounted nameplates can be ordered, Brady says, in the exact quantities required—as few as 100 at a time (depending on size) — without short-run penalties.

The nameplates are made to order with any wording, special trademarks or illustrations, in any size or shape. They are furnished on blue streak dispenser cards for fast application. To apply, pull back the zip-strip on the card, remove one or more nameplates and apply without moistening, chemical activators or mechanical fasteners. Brady's release coatings are said to release the nameplates fast and distortion-free. The zip-strip may be replaced to protect unused nameplates. Request NP1592.

•

TRAFFIC CONE MARKERS—Traffic cone markers in fluorescent red for high visibility, and described as being made of one-piece rotationally-cast plastisol for longer life, have been introduced by Jobet Industries, Inc.

Plastisol construction is said to assure greater damage resistance and good abrasion resistance. The cones, Jobet states, are almost impossible to tear or cut and are also resistant to gasoline, oil, tar and paint. These can be cleaned off easily, extending the useful life of the cones.

The cones are reported to have excellent resistance to cold weather breakage because: (1) The plastisol is especially formulated for cold weather use and (2) a new concept in the manufacturing process assures complete cure.

Jobet cones are 18 inches high, tapering from a 2⅛-inch top diameter to 8-inch bottom diameter on an 11-inch square base. Twenty-eight-inch cones are also available.

The fluorescent red has the ability to

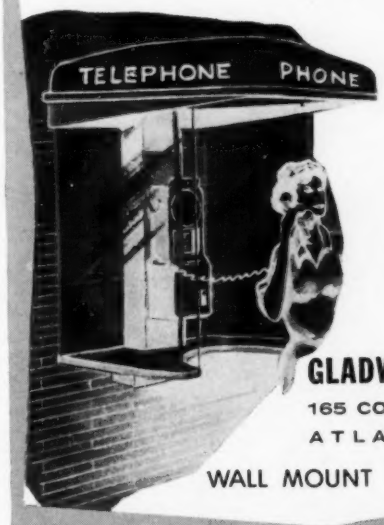
THE CANOPY BY GLADWIN

PEDESTAL MOUNT

The clean cut design of the GP-2500 OUTDOOR LIGHTED CANOPY BOOTH lends itself to any type installation.

The durable acrylic plastic and steel construction plus the excellent signing means low maintenance cost without sacrificing quality.

POLE MOUNT



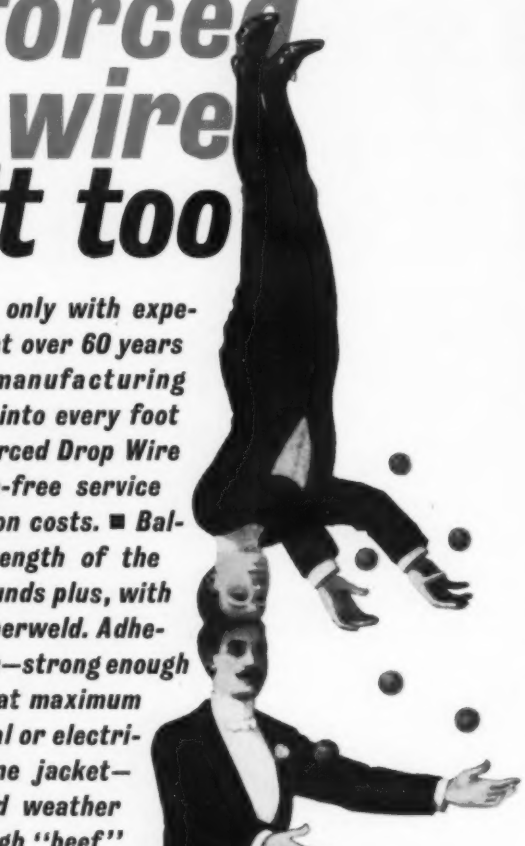
WALL MOUNT

With a lower initial investment you may have more installations and the versatile CANOPY is designed for all of them.

GLADWIN PLASTICS, INC.
165 COURTLAND STREET N. E.
ATLANTA 3, GEORGIA

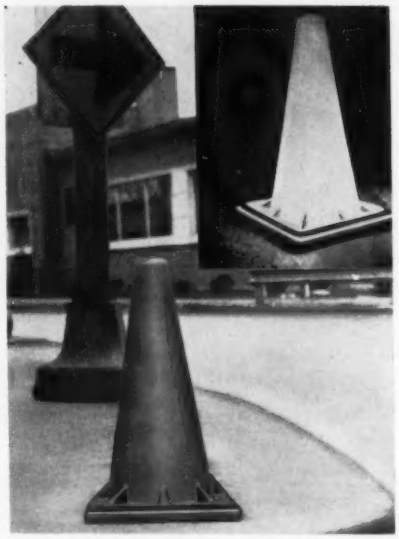
true balance... alphaduct reinforced drop wire has it too

True balance comes only with experience...at Alphaduct over 60 years of technical and manufacturing know-how are built into every foot of Alphaduct Reinforced Drop Wire for greater trouble-free service and lower installation costs. ■ Balanced breaking strength of the conductors—400 pounds plus, with #18 AWG, 30% copperweld. Adhesion of the insulation—strong enough to prevent slipping at maximum load without physical or electrical failure. Neoprene jacket—tough, abrasion and weather resistant with enough "beef" to prevent buckling at the "P" clamps all the way up to maximum conductor strength. Compression cutting resistance—no breakdown in "P" clamps up to overall breaking strength of the conductors. This sturdy balanced construction resists deformation and provides greater protection against lightning failures. ■ Insist on Alphaduct Reinforced Drop Wire... and remember, it's dated for comparison.



National Distributors: Automatic Electric Sales Corporation, Northlake, Illinois; Leich Sales Corporation, 427 W. Randolph Street, Chicago, Illinois; Regional Distributors: Buckeye Telephone & Supply Co., Columbus, Ohio; The Lindsay Telephone Supply Co., Cleveland, Ohio; Pankey Supply Co., Charlottesville, Virginia

ALPHADUCT
WIRE AND CABLE CO.
NEW BRUNSWICK, N. J.



reflect light. Lighted from within (as shown in insert at top of photo), the cone can be seen from a distance, making it a suitable lighted marker for night use by workmen. Dry cell batteries are used for this illumination.

Available also in standard yellow, the Jobet cones can be had sealed, or with either or both ends cut out. Request NP1593.

•

WEED CONTROL LIQUID—Veg-Out, a non-toxic, non-selective, non-flammable, and free-flowing liquid is reported by its manufacturer, the National Chemsearch Corp., to be a safe solution to weed control problems.

Liquid Veg-Out, when sprayed on the surface of the earth, is carried into the soil by rain and absorbed by the roots of all kinds of vegetation. After the roots die and the entire plant is permanently destroyed, the weed killer is said to leave a long-lasting, residual effect which discourages new growth.

Veg-Out has been called suitable for use under power lines, around parking lots and along fence rows and ditches as well as around culverts and other similar areas.

It kills brush, trees, Canada thistle, poison ivy, quack grass and other undesirable vegetation.

One gallon of Veg-Out diluted with 9 gallons of water will treat 150 to 200 square feet of area, the company says, during any season of the year, provided the application is followed by a few inches of rainfall. If application is made in the spring Veg-Out should be applied when the weeds and grasses are not over a few inches high. If vegetation is over 6 inches high, it should be cut and removed before treatment. Request NP1594.

•

AIR-ACETYLENE TORCH — A new

installation requirement: 130 minutes and eight screws

ACHIEVERFONE

AChieverfone can be installed faster and easier than any other mobile radiotelephone. In fact, AChieverfone requires approximately two hours for complete installation while other common carrier MRT systems need from three to seven hours for the very same operation.

AChieverfone was specifically designed for easy installation. For example, all signaling and decoding control functions have been combined into one compact control head. The entire unit fits quickly on or under the dashboard with just *four* mounting screws. The compact R-T unit can be installed in the car trunk with only *four* sheet metal screws. A single plug-in, control cable connects the two units and supplies power.

Ease of installation is just one outstanding feature of AChieverfone. Low initial and operating cost, and multiple frequencies are other reasons why it is outstanding. For more information, write or call AC today.

SPECIFICATIONS—FCC Type Accepted

Transmitter: 144-174 Mc, 4-Channel
RF output: 22.5 watts into 52 ohm load

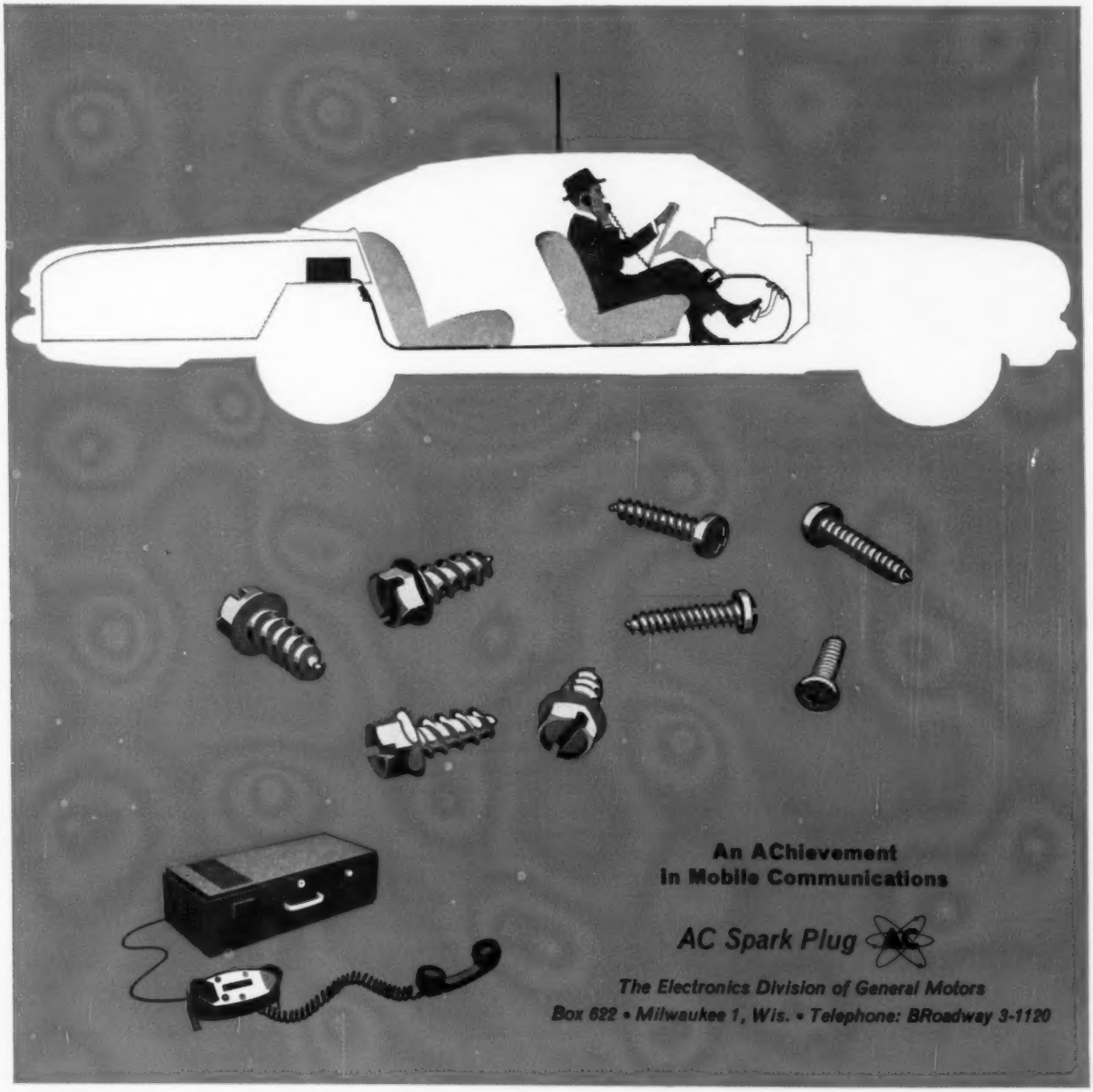
Receiver: 144-174 Mc, 4-Channel
Wide Band (60kc) or Narrow Band (30kc) models available (Bands converted to Narrow or Wide by substituting IF filter)

Frequency Stability: within 0.0005%

Selective Signaling: 51,000 five-digit (compatible, 2-tone, sequential) codes available

Size: Receiver-Transmitter, 21⅛" x 8⅜" x 6¼"

Weight: 37.25 pounds, including receiver-transmitter, control head and interconnecting cable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AC Spark Plug
The Electronics Division of General Motors
Box 622 • Milwaukee 1, Wis. • Telephone: BRoadway 3-1120

air acetylene torch, the flame of which triggers on or off automatically without external lighting needed, is now being marketed by Navan Products, Inc., invention marketing division of North American Aviation, Inc.

When the safetied trigger is pressed, a battery-operated electronic device lights the torch instantly. Releasing the trigger shuts the gas off and the flame goes out. This feature is said to reduce gas consumption by as much as 80 per cent on stop and go jobs.

Burning acetylene, the new torch produces more heat, according to the company's field reports, than conventional air-gas torches. It is said to be suitable for brazing, soldering, and tempering of light-gauge metals and for use by telephone technicians. The torch is tradenamed "Prest-O-Matic." Request NP1595.

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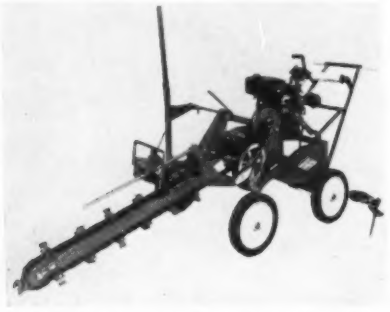
LIGHT-WEIGHT TRENCHER — A new light-weight portable trencher is being marketed under the name of "Digz-All" by the Wind-King Mfg. Co.



The unit weighs 345 pounds and the company states it will dig a trench 3 inches wide with any depth to 32 inches. Depending upon the soil conditions, the Digz-All will dig 1 to 10 or more feet per minute.

The Digz-All is designed, Wind-King says, to provide fast, economical trenching for utility lines and other uses.

It is reported to feature a welded box steel boom which may be raised to vertical position for easy storage or transportation.

Over-all length of the Digz-All is 57 inches with the boom raised. Over-all height to the top of the engine is 35 inches. It is 29 inches wide.

It has a 4-hp Kohler or Clinton cast-iron engine with oil-bath air cleaner and a mechanical flyball governor with hand speed control.

The Wind-King company also makes a line of power mowers and weed cutters under the name of Moz-All. Request NP1596.

IN THE NATION'S CAPITAL

Continued from page 18

tion on the ground that the state should not be dependent on a single company for its out-of-state gas supply.

So, here we have three different classes of utilities — gas, electric, and telephone — all very much affected by what goes on in the Justice Department with respect to these anti-trust cases.

The new man, Judge Loevinger, will have to keep moving to keep up the pace of his predecessor under the Eisenhower administration, Robert Bicks, in view of the government's outstanding victory in the case of General Electric Co. and the other manufacturers. But Judge Loevinger might very well do just that. He brings to the job not only unbounded belief in and enthusiasm for the theory and philosophy behind the anti-trust laws, but also a broad knowledge of the historical background of this important legislation.

The original Sherman Anti-Trust Law was put on the books way back before the turn of the century—in 1898. The Clayton Act came later. They were vigorously espoused by President Teddy Roosevelt, who made quite a name for himself as a "trust buster." It was an anti-trust suit on the legality of a steel merger (United States Steel and the Tennessee Coal and Iron Co.) which caused Teddy to break with his long-time friend, political associate, and successor to the White House, William Howard Taft. It was the Taft-Roosevelt split in the Republican party which set up the election of the Democratic underdog, Woodrow Wilson, in 1912. So, the recent spectacular results of these General Electric cases, which sent several giant manufacturing company vice presidents to jail for 30 days for their part in price rigging, stems from a very fruitful legal tree. It is the same tree that produced the famous split up and record-breaking fines levied against the old original Standard Oil Co., by Judge Kenesaw Mountain Landis—later the "czar" of baseball.

The new head of President Kennedy's trust-busting department is comparatively young. Born in St. Paul, Apr. 24, 1913, Lee Loevinger got his college degree (BA) from the University of Minnesota with highest honors ("summa cum laude" and Phi Beta Kappa) in 1933. He got his law degree from the same place in 1936, and started to practice law in Kansas City.

Anti-trust practice, however, is an old story to Judge Loevinger, who first entered government service in 1937 as a trial lawyer for the National Labor Relations Board. He switched to justice in 1941 and was assigned as an attorney to the Anti-Trust Division where he labored for five years. He went into private practice in Minneapolis in 1946 where he remained until his appointment to the Minnesota Supreme Court in 1960.

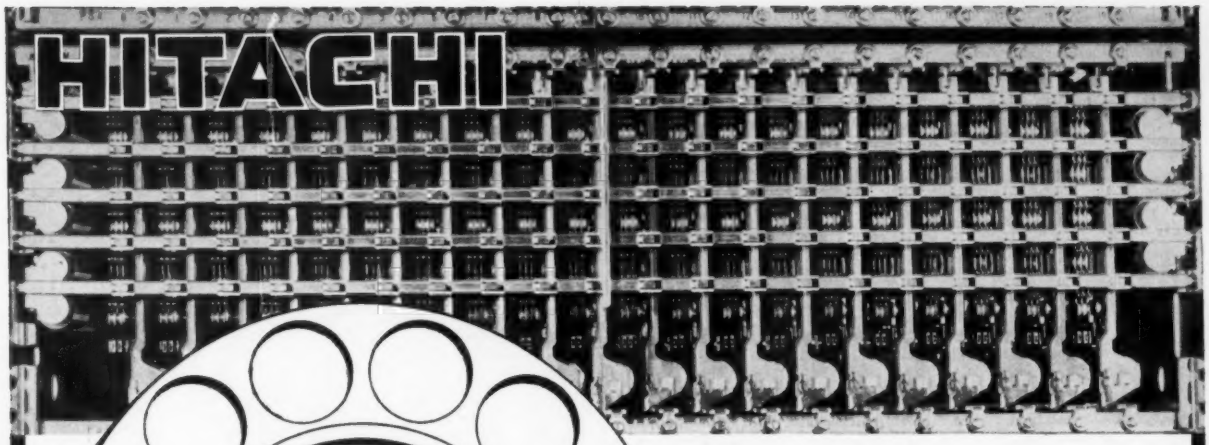
Today, at the age of 48, he weighs in at 160, height 5 feet 7 inches, with dark curly hair, grayed about the temples. He has no naïve illusions about the difficulties of anti-trust enforcement. He realizes that the advantages of large-scale business operations are often most beneficial to the consumers. But, even in the "battle of the Titans," meaning competition between very large business organizations, there is also a public benefit, especially economic freedom.

Judge Loevinger traces the idea of anti-trust enforcement all the way back to the British common law—to the 18th century legal writer, Blackstone, and his economic contemporary, Adam Smith. He said that in those pre-Revolutionary times, monopoly did not develop as a business practice by merchants or others who were more competent or efficient than their rivals. It developed instead from an early policy of the British crown in granting business monopolies as means of raising revenues. The Boston Tea Party, he points out, was a protest of the Massachusetts Colonists against the British tea monopoly.

Judge Loevinger thinks that Britain drifted into Socialism because it forsook the anti-trust policy inherited from Smith and Blackstone. Interviewed on Mar. 29 by George Kennedy of the Washington, D. C. *Evening Star*, he said: "I think that if Britain had continued its anti-monopolistic principles, it would not have gone socialistic. Now Socialism may be a good thing. Many people think so. I don't."

As an example of what happens when competition breaks up a trend towards big business excess, "Imagine where our

HITACHI



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- Radio and Television Broadcasting Equipment
- Parts for Communication Equipment
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Electric Wire and Cable

Extensive Hitachi experience with communications systems is reflected in the handsome Type HA-6 telephone set. Its light, compact and sturdy body is tough enough to withstand the shock of being accidentally dropped to the floor. Other outstanding features include high-fidelity transmission and reception, dust-proofed ratchet for ever-smooth dialling action, and clear and commanding bell-tone.

Today's telephone communications authorities are now employing the Crossbar System Automatic Telephone Switchboards in addition to the time-proven "step-by-step" Strowger System. They are finding that the Crossbar System offers many advanced facilities, fewer maintenance problems, minimized failures and longer service life, and that these features are making it ideal for unattended operations. Hitachi has devoted particular attention to the development of the Crossbar System, and consignees continue to report gratifying operating results.

Hitachi, Ltd.
Tokyo Japan

Cable Address : "HITACHY" TOKYO

very important industry, the manufacture of automobiles would be today, if it had not been for the competition of small foreign cars. Our smallest Ford would be larger than our Cadillacs."

That may be very true, of course, about automobiles. But the anti-trust approach to the public utility business must necessarily be on a different footing. The telephone business, the electric utility, and gas utility business are inherently monopolies as to territorial service, because experience has shown that this is the way the consumer interest is best protected. That is, to substitute regulation for competition so as to avoid the wasteful duplication of facilities which could only result in poorer service at higher rates.

U. S. Circuit Court Judge E. Barrett Prettyman, in the El Paso pipeline decision (already mentioned) stressed this. Judge Prettyman noted that the anti-trust laws and the regulatory laws do not conflict, but are complementary. He said the commission, in weighing anti-trust factors, should not begin with the premise "that competition is always and under all circumstances in the public interest." He said of the two separate bodies of law that "each must be given full effect in its area." The decision was 2 to 1, with Circuit Judge Charles Fahy taking the view that the commission should suspend its ruling until the anti-trust case is decided.

West Coast Telephone Makes Staff and Executive Change

Appointments to a major staff position in West Coast Telephone Co.'s Everett, Wash., general offices, and a top executive post in the company's Washington district were recently announced by L. Gray Beck, vice president and general manager of the three-state company. John Whittaker, a West Coast employe for 12 years, was named general commercial superintendent, an office he was to assume on Apr. 1. R. C. Anderson of Everett, formerly personnel supervisor, was chosen to take over Whittaker's duties as Washington district commercial superintendent.

Mr. Whittaker now has general staff responsibility for all phases of commercial operations for West Coast's 73-exchange telephone system. He succeeded James L. Morrison who left the company after nearly five years of service in two general staff positions.

Mr. Whittaker began his telephone career with West Coast in 1948 as an apprentice switchboardman. In 1954, he joined management as Halls Lake division wire chief; and in 1958, was named

JOHN WHITTAKER

equipment installation supervisor in the company's general plant department in Everett. He was appointed Washington district commercial superintendent in June of 1959.

R. C. ANDERSON

In his new capacity, Mr. Anderson has charge of the company's commercial operations in the state of Washington.

He joined West Coast in 1955 as assistant commercial engineer, moved into the firm's personnel department in 1957 as employment supervisor, and in March of 1959, assumed the position of personnel supervisor.

A graduate of the University of Washington, Mr. Anderson has lived in Everett for the past 10 years. He holds membership in the Pacific Northwest Personnel Management Association.

Self-Control

"Govern your passions, or otherwise they will govern you."—HORACE.

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LOW-COST, LONG-LIFE PROTECTION

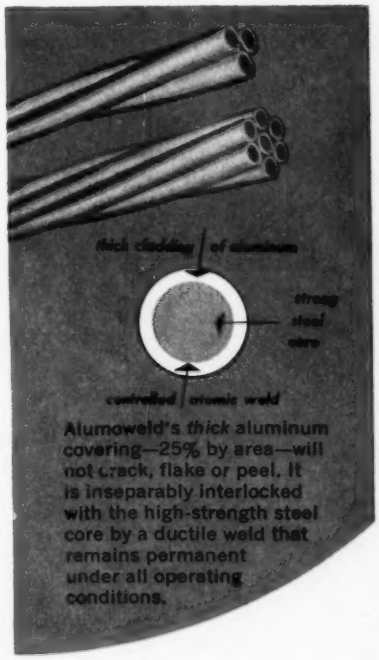
for your overhead lines

Alumoweld Guy and Messenger Strand is designed to last as long as the pole it guys or the cable it supports. Each wire of this low-cost strand has a *thick* aluminum covering applied to the strong steel core by the controlled atomic-welding process. This unique method of manufacture gives Alumoweld the same permanent protection against corrosion as solid aluminum wire.

The rugged strength of Alumoweld is the same as steel, yet Alumoweld weighs 18% less and lasts far longer. It's easy to handle, easy to install.

Supplies of Alumoweld Strand are available for prompt shipment from our warehouses in New York, Chicago, Pittsburgh and Memphis.

For the complete story on Alumoweld, write for Engineering Bulletin E.D. 3000.



Alumoweld's *thick* aluminum covering—25% by area—will not crack, flake or peel. It is inseparably interlocked with the high-strength steel core by a ductile weld that remains permanent under all operating conditions.

COPPERWELD STEEL COMPANY

WIRE AND CABLE DIVISION Glassport, Pa.

For Export: COPPERWELD STEEL INTERNATIONAL COMPANY, New York

Canadian Distributor: NORTHERN ELECTRIC COMPANY LIMITED

EFFICIENT MANAGEMENT OF BUILDINGS

Continued from page 22

the tendency is to leave them alone until they stop functioning. Efficient management requires that either a properly trained force be provided, or if this is not practical, then periodic maintenance inspections must be contracted for from a competent serviceman.

The fuel required to heat a building during the heating season represents a large expense item, but not too much attention is normally given to the reasonable control of this expenditure. Inefficient heating plant operation, plus a lack of reasonable control of room temperatures, can easily result in excess costs of 30 to 50 per cent more than necessary.

Efficient control of this expense starts with a properly maintained heating plant. A simple over-all control of the efficiency of an oil-fired heating system, can be obtained by keeping a record of the average degree days of temperature, and when a new supply of oil is obtained, compute the oil used per degree day since the last filling. The rate of usage should be relatively stable if the heating plant is operating efficiently, but if a large increase is experienced, with no major change in the usage of the building, it might well suggest the need for a check on the operating efficiency.

The most efficient heating system can still use a lot of excess fuel if the occupants of the building insist on unusually high room temperatures. The effective room temperature for maximum comfort is a very complex thing, since it depends upon humidity and air movement, and varies with the individuals in the area. Consequently it should be recognized that, in any large office group, there will always be a few individuals who are uncomfortable, regardless of the temperature maintained.

In accordance with the true democratic spirit, the only practical solution is to provide a temperature that will be comfortable to the majority of the occupants, and the few uncomfortable individuals will have to either increase, or decrease, their personal attire to satisfy their own personal comfort.

For large areas, it is advisable to avoid using room thermostats that can be adjusted externally. Even the fully enclosed type still presents a problem, because there always seem to be a few individuals who are engineers at heart, and who figure out how to bend a paper clip, or hair pin into just the right shape that will make it possible to poke it into the thermostat and close the contacts.

However, if management is really interested in reducing heating costs, they can obtain the cooperation of the occupants by a program of education on the reasons for maintaining reasonable temperatures, and an understanding of the fact that no temperature will be comfortable to all of the people in the area.

Perhaps one of the greatest areas for savings in heating costs is in plant service center buildings, having a combined office area and garage space. Heating systems in such buildings are usually designed with separate controls for the office area, so this area can be heated to normal temperatures, while the garage area is kept to a minimum temperature. There would seem to be little justification for heating the garage area to anything over 50 degrees, since any men moving through this area would normally be dressed for outside work. Since most of these buildings are unoccupied after the evening hours, and on weekends, the use of a program clock to drop the temperatures down during the unoccupied hours will generally prove to be a good investment.

The cost of electricity is one item that seems to be constantly increasing, with little hope of reversing the trend. This is the result of the increased usage because of more mechanical plant, and increased levels of lighting. For larger buildings, it is at least desirable to check with the local power company to be sure that you are taking advantage of the most economical rate schedule. Oftentimes a discussion of your actual requirements with the power company, will bring out the fact that for a relatively small expenditure to modify your service, you can effect an appreciable reduction in your power costs.

During the past decade, the increase in lighting levels has followed the same pattern as the horsepower race in automobiles. The only difference is that the horsepower trend is now heading downward, while the lighting levels are still going up. Until recent years, it was common practice to maintain traffic operating rooms at a lighting level that was just a shade better than total darkness, because if your provided any more than that, the operators could not see the signals at the board. However, with the use of mark-sense toll cards, and smaller directory print, as well as the

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FOR AERIAL (STRAND) MOUNTING
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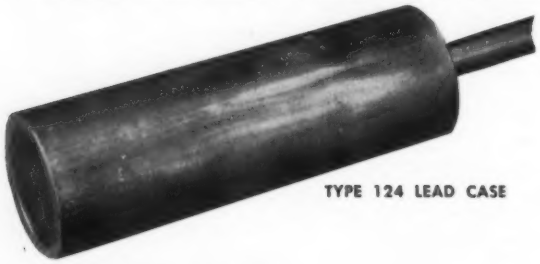

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use of more numbers in toll route cards, the problem of providing effective lighting for operating rooms is really a difficult engineering problem. Not too many years ago, 30-foot candles was considered good lighting for office areas, but this has moved up to 50 and 75, and today it is quite common to see new office buildings being built with 100-foot candle lighting.

How much lighting is enough, and how much is too much, is a problem that can't be answered in terms of foot candles alone. It must be considered as an integrated problem with consideration given to color, contrasts, glare, and all the other factors that enter into the over-all visibility of the area. It is essential, however, that management recognizes that increased lighting levels mean increased costs, so that whatever level is used, it is done with full understanding of all the costs involved. If the building is air-conditioned, increased lighting requires additional cooling to compensate for the heat generated by the lighting fixtures, so that this additional cost must also be considered in the over-all analysis of the added costs involved.

In the days of the incandescent lights, most drives for expense reduction usually included a "turn out the lights" program. With today's common usage of the fluorescent fixtures, there is a tendency to leave them on, because the more frequently they are turned on and off, the shorter is the life of the tube. While this would certainly apply to short intervals, it would still appear to be good business to turn out the lights when an area is vacant for a full hour during the lunch period, and there is still no reason why lights should not be turned off when the office is vacated at the close of the day's work.

The exterior of a typical telephone building is largely a combination of brick, stone, and other masonry materials. It gives the impression of permanence, and would seem to indicate that it would last forever, without requiring any attention. In reality, however, man with all his ingenuity has been unable to fully compensate for the tremendous forces of expansion, contraction, erosion, and movement. That is why a regular preventive maintenance program for building exteriors is an essential part of good building management.

One of the functions of the exterior of a building is to keep the building watertight. If it is not maintained so that it can fulfill this function, then progressive deterioration will result as the water enters through the surface, and this will only increase the ultimate cost of repairs. That is why good management arranges for repairs as soon as there are extensive cracks in masonry surfaces, or an appreciable number of open mortar joints.

A complete inspection of the entire exterior should be made once a year, and this inspection should include roofs, parapet walls, and coping stone joints, as well as exterior walls. In the colder climates, most of the deterioration to exterior surfaces occurs during the winter months, so it is general practice to make this inspection after the end of the winter season. This also makes it possible to arrange for whatever repairs are necessary in sufficient time to allow for completing the work during the warmer weather.

Most of the work involving repairs to the exterior surfaces of the building is usually done by contract repair forces. The future life of the repair work will depend upon how good a job is done of removing all loose mortar, and upon the quality of the repair material used. Since it is not practical to thoroughly check the quality of workmanship, it is essential that the services of a competent contractor be employed, and even then it is good management to make sure that suffi-

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cient inspections are made to insure a good quality job.

In most cases, it is difficult to determine the actual amount of work that will be required, because it will depend upon what is found after inspecting each joint. If competitive bids are requested upon a flat price basis, it is difficult for any contractor to do an accurate job of estimating his costs in order to submit a reasonable bid. That is why it is generally desirable to request bids for such work on the basis of a labor rate, and material costs, rather than on a flat price.

There are many other phases of building management that could be explored, but it would be found that they all follow the same general philosophy of weighing the cost against the essential needs, and making decisions in accordance with good management judgment. Because there is little standardization, and because each building has its own peculiar problems, the effectiveness of building management is, to a large extent, dependent upon good judgment, together with sufficient background knowledge to be able to make intelligent decisions.

The important thing is to recognize that the costs of operating buildings are largely controllable, but that economies and improved efficiencies will only be obtained if there is a definite assignment of responsibility to competent management, somewhere in the organization. If these managers will then carry out their responsibility in the same manner as a building owner, who has to keep his operating expense sufficiently below his rental income to provide a fair return on the investment, then it will be found that there are many ways to improve efficiencies, and reduce costs.

Howden News Bureau Head Rochester, N. Y., Office GD/E

Norman M. Howden has been appointed to the post of Rochester News Bureau Manager, General Dynamics/Electronics, according to W. H. Herrman, acting director of public relations.

Mr. Howden joined Stromberg-Carlson's public relations department as staff assistant in 1955. Stromberg-Carlson plus the separable electronics operations of other General Dynamics divisions, were combined last month to create General Dynamics/Electronics.

Previously, Mr. Howden served as director of publicity for the Rumrill Co., and prior to that, was science editor for the *Democrat* and *Chronicle*. While in the latter post, he received the A.A.A.S.-Westinghouse award for the best science news story in a U. S. daily newspaper in 1950.

A graduate of the University of Rochester in 1930, he earned a master's degree in English from the same institution in 1932.

Eager, Beckwith Recordak's Sales, Advertising Managers

The appointments of John P. Eager, and of Raymond F. Beckwith as sales manager and advertising manager, respectively, for Recordak Corp., have been announced by Van B. Phillips, vice president in charge of sales and advertising.

J. P. EAGER

Mr. Eager was formerly midwestern divisional manager at Chicago, and will now be headquartered in Recordak's executive offices in New York.

A native of Kansas City, Mo., Mr. Eager left a banking career to join Recordak in 1939 as a sales trainee, and was later assigned a territory in the Kansas City area. With the establishment of a Recordak branch in Kansas City in 1944, he was appointed branch manager there.

In 1954, he was transferred to Chicago to become manager of the Recordak Chicago branch, advancing in 1956 to midwestern divisional manager. In this capacity, he was responsible for sales and business development in all Recordak branches in the midwestern states.

"As microfilming becomes an increasingly important element of efficiency in business systems," said Mr. Phillips in commenting on Mr. Eager's appointment, "the demand for Recordak products and services has continued to accelerate, to the point where further expansion of the Recordak sales management group has become necessary. Mr. Eager's capacities for directing the introduction of many Recordak new product lines . . . will be especially helpful

R. F. BECKWITH

as microfilming moves into a new growth phase as a component of efficient systems automation."

Mr. Beckwith was formerly assistant advertising manager of Recordak Corporation, and succeeds O. H. Perry Cabot as advertising manager.

A graduate of Cornell, he joined Eastman Kodak Co. in 1928 and was assigned to its newly formed subsidiary as one of the first Recordak employes.

After serving in various capacities in the new organization, he was promoted into the advertising department in 1936 and assigned to sales promotion.

Named a management staff assistant for advertising and sales promotion in 1942, he was advanced to assistant advertising manager in 1953.

Union Carbide Names Kelly A Technical Representative

Lawrence J. Kelly has been appointed a technical representative in the Metropolitan New York region of Union Carbide Plastics Co., division of Union Carbide Corp.

According to the announcement by H. K. Phinney, regional manager, Mr. Kelly will be responsible for the sale of Bakelite brand vinyl, phenolic, and epoxy resins and compounds for bonding, laminating, and coating applications. He will be located in the company's Clifton, N. J., district sales office, 1051 Bloomfield Ave. (PRescott 8-2900).

Mr. Kelly was graduated from Villanova University in June, 1960, with a bachelor of science degree in chemical engineering.

He joined Union Carbide Plastics Co. in that same month and recently completed the sales training program at the company's Bound Brook, N. J., plant.

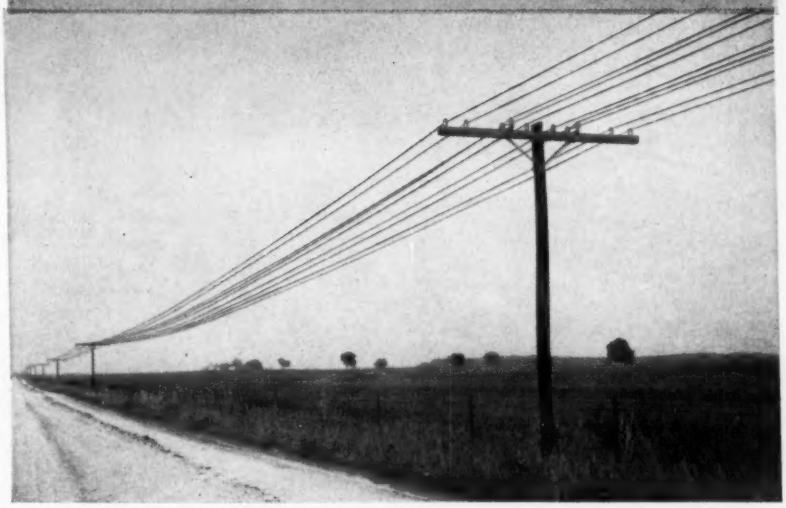
Crapo HTL-135

High Tensile Line Wire

MADE TO WITHSTAND HEAVY STORM LOADS

Time and time again, *Crapo* HTL-135 has demonstrated its ability to stand up under heavy ice and wind loads when other conductors failed. This can be attributed to the fact that *Crapo* HTL-135 combines high strength with high fatigue endurance plus superior elastic qualities which enable it to spring back into place when loads are removed. The result: service interruptions are minimized, re-sagging is seldom necessary, where this rugged telephone wire is used.

The excellent telephonic transmission characteristics of *Crapo* HTL-135 make practical subscriber loops of 14 to 15 miles with normal voltages and equipment. Longer loops are possible where higher voltages and more sensitive telephone sets are employed. For dependable, long-span, low cost rural lines, specify *Crapo* HTL-135.



HERE'S PROOF OF DEPENDABILITY

The **Crapo** HTL-135 in this typical rural line of 300-foot spans was subjected to two heavy ice storms within 14 months. This photo shows the line, without resagging, three months after the second storm.

Write for Manual TM-59 containing complete engineering data!

Crapo HTL-135

INDIANA STEEL & WIRE CO., INC.
Muncie, Indiana

LOCATE HIDDEN DECAY AND LENGTHEN POLE LIFE

OSMOSE INSPECTORS DIG FOR THE ANSWER

Regardless of species or original treatment, every older in-place pole is a prime target for groundline decay. Records prove it. And there's no short cut to inspection. It's literally a case of digging for answers. The first 18 inches will quickly tell the story to experienced OSMOSE Inspectors.

Inspection without treatment merely observes decay as it progresses. Often enough, such methods actually encourage decay. The OSMOSE method not only locates decay, but halts and prevents it. This is the big difference between common "inspection-only" practices and the OSMOSE Inspection and Treatment method.

Hundreds of utilities know that the OSMOSE way is the only sure, safe way to keep older poles standing for many more years of trouble-free service. And the cost is remarkably low. Actual field reports show that the OSMOSE Inspection and Treatment Program can pay for itself if only 3 to 6% of your older poles can be saved from becoming "rejects". Get all the money-saving facts, write: Osmose Wood Preserving Co. of America, Inc., 976 Ellicott St., Buffalo 9, N.Y.

OSMOSE

SERVING UTILITIES SINCE 1935

Helpful Literature

EMERGENCY GENERATOR REQUIREMENTS—"Factors to be Considered When Installing Emergency Generators" is the title of a four-page folder offered by the Onan Division of Studebaker-Packard Corp.

A reprint of an article on the subject of emergency generating equipment written by Leonard Freeman of Onan Eastern Corp., the bulletin covers planning and engineering prior to the actual installation of the unit.

Intended as a guide to point out "some of the more common problems that may arise in standby installations . . .", the article stresses the necessity for reliability in an engine-generator set.

Good engineering and careful equipment selection can be obtained best by utilizing the services of a professional consulting engineer, or the local distributor, the article states.

Beginning with a pre-determined load requirement, many important factors must be carefully analyzed before the correct type of emergency generator set can be installed, says Freeman. Cooling systems . . . air or water-cooled units; type of fuel . . . gasoline or Diesel; ventilation and exhaust systems; fuel supply problems; which type of transfer control . . . manual or automatic?—each is considered in detail with advantages and disadvantages of both outlined in this treatise on emergency power. Request HL653.

MICROWAVE SYSTEM—A 12-page bulletin recently issued describes the Lynch microwave system, type LMR20, as a complete communication system using microwave as the means of transmission and Lynch carrier equipment as the means of keeping all conversations separate and private.

Microwave, states the company, is suitable for all dial telephone services. Lynch terms its LMR20 6kmc a very flexible microwave system providing low-cost transmission for telephone, telegraph, teleprinter, protective relaying and telemetering, supervisory control, monitoring, data and other communication signals.

The Lynch microwave system consists of radio (RF equipment), multiplexing (channeling equipment) and the necessary antennas, towers, buildings, etc. for each individual station.

Lynch channeling equipments available for use with the LMR20 include: both high and low-density channeling systems providing trunk and subscriber service for data, voice, telegraph and telemetry.

The company adds that, in most cases, all standard telephone signaling options are available. Toll circuit quality can be obtained for up to 600 channels over as short a distance as 5 or 10 miles, and as long as 1,000 miles.

These microwave systems are available for operation in the common carrier band, from 5925 to 6425 megacycles;

TELEPHONY PUBLISHING CORP.
608 S. Dearborn St.
Chicago 5, Ill.

Please have the manufacturer send me without obligation the literature indicated by the following numbers:

HL653_____; HL654_____; HL655_____; HL656_____;
HL657_____; HL658_____.

Name .....

Company .....

Street .....

Town and State .....

4/8/61

in the industrial band (operational fixed), from 6575 to 6875 megacycles; in the government band between 7125 and 7650 megacycles; and for operation above 10,000 megacycles, the frequencies affected by the FCC's recent ruling. Request HL654.

•

AUTOMATIC TELEPHONE ANSWERING SETS—A sales promotion kit, geared to help sell telephone answering service to subscribers, is now available from Electronic Secretary Industries, Inc., of Waukesha, Wis., subsidiary of General Telephone & Electronics Corp.

The promotional material consists of two packets in one kit. One packet is designed to help the telephone company sell Electronic Secretary Industries' new line of all-tape-operated automatic telephone answering sets. Business subscribers who adopt Electronic Secretary sets can use the material in the second packet, the company suggests, to tell their customers about their new "round-the-clock" telephone answering service.

The telephone company portion of the packet contains newspaper ad mats, a suggested press release, instruction sheets and circulars on all models, an eight-page promotional piece and a 24-page sales and usage guide.

The eight-page booklet, "How to hire another YOU," is also designed to be given to the prospect. It outlines the features of the equipment and explains how the various models can increase business potential by improving telephone service to customers. A sales and usage guide describes the variety of uses for answering sets, as well as providing answers to questions that might be raised by prospective users.

The package for the business subscriber provides all the materials needed to tell his customers about the new telephone answering service. Ad mats, suggested press releases, radio commercials, and a promotional letter are included. Proofs of bill inserts, post cards and all-purpose stickers, which can be ordered in quantity from the local telephone company, are also incorporated. A rubber stamp, which may be used on letters, envelopes, etc., provides a simple means of notifying customers of the new service. Request HL655.

•

APPLICATIONS OF BASIC METAL PRODUCTS are described in a new magazine being introduced by National-Standard Co. Products included are:

Stainless, high-carbon, copper-plated and specialty steel wire.

Decorative, protective, and screening grades of perforated and pierced metal.

Wire cloth.

METER PANEL INSTALLATION

PUREGAS PRESSURIZATION SCORES A *New High*

... at High Point Exchange of North State Telephone Co.

High Point, North Carolina is one place where "high" does not necessarily mean "dry". With severe summer storms drenching the area in driving downpours, engineers and maintenance crews of the North State Telephone Company faced the tough problem of "wets" and lightning-caused failures. These heavy showers often caused as many as 15 to 20 separate disruptions along the some 275-odd miles of underground and aerial cable belonging to the High Point Exchange.

Three months after installing Puregas refrigerator-compressor pressurization equipment, North State engineers report.... **"service affecting troubles have been greatly reduced. We now average only about one or two troubles—sometimes none... Roughly 75 to 80 percent of our cable troubles due to moisture and water have been eliminated... even now the pressurization system has almost paid for itself from a maintenance and protection standpoint."**

For full details on how Puregas pressurization equipment is now effecting up to 85% service improvement in more than 6,000 exchanges around the world, send for the complete Puregas catalog.

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578 Oak Street, Copiague, L. I., N. Y.

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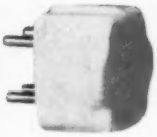
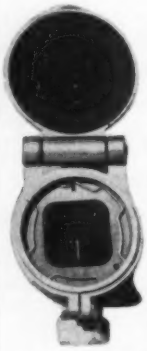
NEW, LOW PRICES PLUGS and JACKS!

SE 404B Jack
87¢ in ivory, brown and blue-beige



SE 283B Plug
70¢ in ivory and brown
77¢ in blue-beige

Use of new materials with better quality characteristics allows Suttle to share with you a *much lower price* on industry standard SE 283B Plugs and SE 404B Jacks! Don't overlook this opportunity to reduce your costs! Available from Suttle and all other distributors—NOW!



Outdoor Weatherproof Jack Boosts Revenues!

Subscriber demands for outdoor, backyard, or patio telephone service are growing fast. The SE16151 Outdoor Weatherproof Jack from Suttle fills the bill for every outdoor use. The noncorrosive waterproof aluminum receptacle houses the SE-493A jack (above). This jack makes an excellent extension sale-revenue booster. Another SUTTLE *quality* product at low cost. Order from SUTTLE or your distributor. Price $6.50 ea.

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High-carbon spring steels.
Special machinery for wire handling and metal lithography.

In National-Standard's *News Digest*, to be published periodically, applications of the company's products will be summarized, the company states. Request HL656.

•

POLE TREATMENT STORY—Available from the Piedmont Wood Preserving Co. is a well-illustrated booklet story entitled, "The Piedmont Pressure Treated Pole," which describes the utility pole production process from the woods to the time of shipment.

In addition, there are diagrams and charts, a listing of preservative standards, and a description of the features in creosoted Southern Pine poles.

Framing data and data on dimensions and weight are also given. Request HL 657.

•

POLE DATA REFERENCE CARD—Piedmont Wood Preserving Co. is also offering a Pole Data Reference Card, which provides a handy reference to pole dimensions, weights, specifications, and standard cubic feet. It also incorporates a framing and measurement guide. Request HL658.

•

Set Electronics Symposium; Stress Industry Cooperation

Industrial progress through co-operation and understanding between electronic equipment suppliers and industrial users will be stressed at the 1961 Industrial Electronics Symposium, sponsored jointly by the Institute of Radio Engineers (Professional Group on Industrial Electronics), the American Institute of Electrical Engineers, and the Instrument Society of America, to be held on Sept. 20 and 21 in the Bradford Hotel, Boston, Mass.

C. Metcalfe, chairman, of the Electronic Forum for Industry, of London, England, will be a luncheon speaker. The Electronic Forum for Industry is a British organization formed in February, 1959, to foster liaison between the manufacturers and users of electronic equipment.

During the meeting, a panel of electronics experts in various phases of industrial electronics will answer industrial users' questions. The moderator for the panel will be William Vannah, former chief editor of *Control Engineering*, who is now an associate for advanced engineering of the Foxboro Co., at Foxboro, Mass.

Three additional technical sessions are planned. The first one on "Measuring Techniques for Industry" will have Dr. Charles W. Clapp, consulting physicist, Instrument Department, General Electric Co., as chairman. Papers to be presented will cover such topics as noncontact measuring techniques, nondestructive fault testing, moisture measurement, and infrared and chromatography techniques.

The second session will deal with "Digital and Analog Techniques in Industry" and will have F. W. Atkinson of Owens-Corning Fiberglas as chairman. It will cover both analog and digital blending techniques stressing actual case histories, three-mode controllers and computers.

The final session will cover "New Power Conversion Techniques." Charles H. Chandler of Gillette Safety Razor Co. will be chairman. Papers in this session will cover such topics as a novel system for coupling a turbine to a variable-speed drive with silicon-controlled rectifiers, ultrasonic machining techniques, industrial applications of thermoelectricity and electronic sources of industrial heat.

Dream World

"American Farm Bureau Federation's secretary, Roger Fleming says: 'The trouble with all this credit, and the putting off of the day of payment,

R. G. HALEY & CO.
SPITZER BUILDING
TOLEDO 4, OHIO

is that we may get to be like the drunk who didn't like hangovers, so he solved his problem by staying drunk all the time.' "—Washington (Ia.) *Journal.*

Illinois Personnel Exchange Sales, Merchandising Ideas

Members of the Illinois Telephone Association assembled at Mt. Vernon on Mar. 15 for a one-day telephone merchandising conference, presided over by Robert A. Reel, of Mt. Carmel, the division manager of the General Telephone Co. of Illinois.

The Mt. Vernon conference is one of a series, the first having been held in Mattoon last December, and two more, held on Mar. 28 and 29, at Dixon and Peoria respectively.

John F. Tharp, executive secretary of the Illinois Telephone Association, explained that such conferences are essential to assist all operating company personnel in merchandising new communication services and new equipment.

Features of the merchandising conference included a talk entitled, "You Can't Sell Them Unless You Tell Them," by R. D. Watkins, marketing and sales manager of Illinois Consolidated Telephone Co., Mattoon.

A commercial office skit was presented by Eileen DeVivo and R. J. Hausske, Illinois Bell Telephone Co. representatives at Mt. Vernon.

Sales tools offered during the meeting included a training film, "The Third Eye," demonstrating proper techniques for selling service and equipment to business establishments; and a demonstration of an installer's kit by David Radcliffe and Dick Knowles, Eastern Illinois Telephone Co. engineers from Rantoul. Norm Carlson of Chicago, sales representative from Gladwin Plastics, Inc., spoke on "Tools for Merchandising."

B.C. Telephone Adds RAMAC For Disbursement Accounting

British Columbia Telephone Co. Vancouver, has installed a 4¼-ton RAMAC Computer for disbursement accounting application, it was announced on Mar. 22.

RAMAC, whose initial-letter name stands for Random Access Method of Accounting and Control, is being used on plant entry, labor distribution, system inventory, maintenance expenditure and construction work in progress.

"It is the company's first venture into electronic data processing machines," says W. D. Stevens, BCT comptroller, "and is designed to provide more current information for management control purposes."

The computer can store up to 5 million letters or numbers and report the status of any of them within two or three seconds.

"RAMAC is always as up-to-date as the latest batch of data fed into it," says Mr. Stevens. "Instead of having to search through long reports to find items that particularly need attention, management can now obtain status reports on individual items almost at a moment's notice. It is even possible to program the machine to call attention to items that require investigation because they are exceptions to predetermined rules."

Some of participants in Illinois Telephone Association's one-day telephone merchandising conference, held at Mt. Vernon, Ill. on Mar. 15, were (l. to r.): R. D. Watkins of Mattoon, a speaker; Eileen DeVivo and R. J. Hausske, both of Mt. Vernon; Norm Carlson of Chicago, sales representative of Gladwin Plastics, Inc.; Robert Reel of Mt. Carmel; John F. Tharp, executive secretary of Illinois association, Springfield; and L. D. Bender of Woodlawn.

NEW POLE SETTING TECHNIQUE

"FLEX-CLIP" IS A NEW POLE SETTING DEVICE WHICH:

- NEEDS NO MOTIVE POWER TO OPERATE
- IS SIMPLE TO USE BY ANY DIGGER OPERATOR
- ANYONE WHO CAN PLUMB A HOLE — CAN PLUMB A POLE — WITH "FLEX CLIP"
- SPEEDS POLE SETTING TREMENDOUSLY

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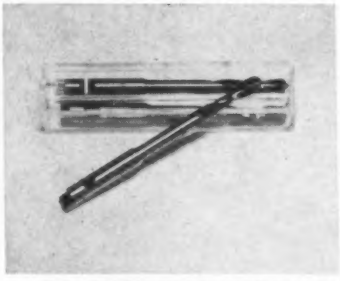

No. 30 (.1285) and No. 33 (.1130)

OVER ONE MILLION SOLD TO BELL COMPANIES

High Quality Steel Drill Points manufactured in Denmark's largest Twist Drill Plant.

Packed two to the plastic box

$15.00 PER PACKAGE OF 72 PIECES

(MINIMUM ORDER)

Either Size — No Mixtures
Postpaid anywhere in the U. S. A.

JOS. A. BATLLE & CO., Inc.

MANHASSET NEW YORK

Taylor, Marketing; Faust Plant Head for Ramset

Elbert R. Faust has been appointed plant manager and F. Morgan Taylor Jr., has been named marketing manager of Ramset Fastening System, it was announced by W. Miller Hurley, vice president and general manager, Winchester-Western Division, Olin Mathieson Chemical Corp.

F. M. TAYLOR

Mr. Faust has had more than 15 years' experience in the fastening field. Works manager for the Allen Mfg. Co., Bloomfield, Conn., before joining Olin, he was previously employed by the Illinois Tool Works Shake Proof Division and the H. M. Harper Co., both in Illinois. A native of Chicago, he was graduated from the University of Illinois with a BA degree in 1932.

Mr. Taylor had been Ramset plant manager since 1958. He joined Olin in 1955 as a trainee in the Metals Division at East Alton, Ill., and transferred to Ramset as a special assistant in 1956. A native of Quincy, Ill., he was graduated from Princeton University with a BA degree in 1953.

Sequoia Names Two to Sales, Engineering Posts

Albert H. Leader has been named vice president-sales and Eugene A. Christian Jr. has been appointed chief engineer by Sequoia Wire & Cable Co., wholly-owned subsidiary of the Anaconda Wire & Cable Co.

Mr. Leader has been Los Angeles district manager for Anaconda since June 1 of 1960. In his new position, Mr. Leader will assume over-all responsibility for the Sequoia national sales program.

Announcement of Mr. Leader's appointment was made jointly by Robert B. Fulton, president of Sequoia and Jack L. Tindale, vice president for marketing and sales for Anaconda Wire & Cable.

Mr. Leader joined Anaconda as a salesman in the Seattle district office in 1948. He became manager in Seattle in 1954.

He was graduated from the University of Washington in 1944.

Mr. Christian joined Anaconda at the Hastings-on-Hudson plant in 1956 as a cable engineer. He worked in various engineering capacities until April, 1960, when he was transferred to the Sycamore (Ill.) plant where he has been engineer of manufacturing—telephone cable.

Mr. Christian was graduated with a BEE degree from Clarkson College, Potsdam, N. Y., in 1951.

He is an associate member of the American Institute of Electrical Engineers and is a licensed professional engineer in New York State.

Before joining Anaconda, Mr. Christian was for five years associated with Niagara Mohawk Power Corp. with various engineering responsibilities.

J. A. Reynolds Heads Sales For Avnet Instruments

Jack A. Reynolds has been appointed sales manager of Avnet Instrument Corp., a subsidiary of Avnet Electronics Corp., Lester Avnet, president of the parent company has announced.

In addition to Avnet's connector and cable checker, Avnet Instrument Corp. will market the instruments and test equipment formerly handled by British Industries, which was merged into Avnet last year.

Before joining Avnet last year, Mr. Reynolds was associated with Marconi Industries, Ltd. (England) and for five years was sales manager of Livingston Laboratories of London.

Holmes to Head AE Factory in Colombia, S. A.

G. K. Beare, president of Automatic Electric International, Inc., recently announced the appointment of J. C. Holmes as manager of factory operations for Automatic Electric de Colombia, and of Malcolm V. Kennedy as his assistant.

Operations of the factory in Bogota include the manufacture of shelves and trunk boards, and the assembling, wiring, and testing of Strowger switches.

The Automatic Electric factories in Europe, Canada, and at Northlake, Ill., support these operations and an expanded sales program in Latin America.

The Bogota factory also stocks PABX's, telephone instruments and supply items.

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INSPECTION SERVICE

"AT TIMBER TREATING PLANTS"
Of poles, crossarms, and preservative treatments. Analysis of wood preservatives. Consultation and specification writing.
A. W. WILLIAMS INSPECTION CO., INC.
MOBILE, ALABAMA
New York • St. Louis • Portland
Inspectors stationed throughout the U.S.A.

CREO & PENTA TREATED **POLES**

"from the Nation's Largest Plant"

DIERKS FORESTS, INC.

NA 3-7766 Hot Springs, Ark.

POLES • CROSSARMS

RAIL or TRUCK DELIVERY

Pressure-treated to your specifications. 16 sales offices, 34 plants serving you. See Yellow Pages, write or call Pittsburgh EXpress 1-3300.

C-10

KOPPERS COMPANY, INC.
Wood Preserving Division
757 Koppers Bldg., Pittsburgh 19, Pa.

POLES

B. J. Carney & Co., 100 N. 7th St., Minneapolis, Minn.—Western red cedar poles. Pentrex Butt Treated or Plain.

Cascade Pole Co., P.O. Box 743, Tacoma, Wash. — Creosoted Douglas Fir and Cedar Poles.

C. M. Christiansen Co. — Northern White Cedar Poles, Pentachlorophenol treated. Plant and Yards, Phelps, Wis.

Eppinger & Russell Co., 80—8th Avenue, New York 11, N. Y.—Creosoted Poles and Cross Arms. Plants: Jacksonville, Fla., Norfolk, Va., Eddington, Pa.

International Creosoting and Construction Co., Galveston, Texas.—Creosoted Southern Yellow Pine Poles. Plants Beaumont and Texarkana, Texas.

International Paper Co., Wood Preserving Division — 926 Grand Avenue, Kansas City, Missouri—"LONG-BELL" pressure-treated Southern Pine and Douglas Fir Poles—Creosote or Penta.

Piedmont Wood Preserving Company —Creosoted and Creosote-Penta Treated Pine Poles. Plant, Augusta, Georgia. Yards, Virginia, West Virginia and Connecticut. Address inquiries to Box 1662, Spartanburg, S. C.

Texas Creosoting Company—512 Main Street, Orange, Texas—Creosoted Southern Yellow Pine and Douglas Fir Poles. Can also treat with "Penta."

CARTRIDGE-HEATED SOLDERING IRON

Indispensible for all line work where no power is available. The perfect tool for the purpose, perfected and used for years by a major telephone company. Iron uses any one of 4 interchangeable tips, from ¼-inch to 1-inch, pyramid or chisel. Heat unit is expendable, thermit cartridge.

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Your temporary installation and engineering bottle necks do not justify expensive new hiring.

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Your installation additions, moves, changes or modifications, new and old, manual or dial. Factory trained supervisors and installers. All work guaranteed. Any type system.

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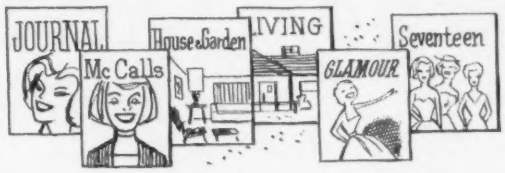
During the past several years North Electric consumer advertising has made nearly 75 million impressions on the American public through the pages of Ladies' Home Journal, McCalls, House & Garden, Living For Young Homemakers, Glamour and Seventeen!



We added countless millions of additional impressions through newspaper and magazine stories, exposure on such perennial TV favorites as Dave Garroway's Show, "The Price Is Right", "Hawaiian Eye" and others, appearances in motion pictures and physical showings at high traffic fairs, conventions, and open house showings.

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North Electric will furnish bill stuffers, counter cards, displays, ad reprints—all the things that you can use to let your customers know you install Ericofons. North Electric will show you how to use these merchandising materials—how to make it easy for your customers to order Ericofons.

The Ericofon will produce profit for you—money in the pocket—black ink in the ledger!

Capitalize on the Ericofon's consumer acceptance—you can get all the help you need from

THE DYNAMIC FORCE IN THE TELEPHONE INDUSTRY

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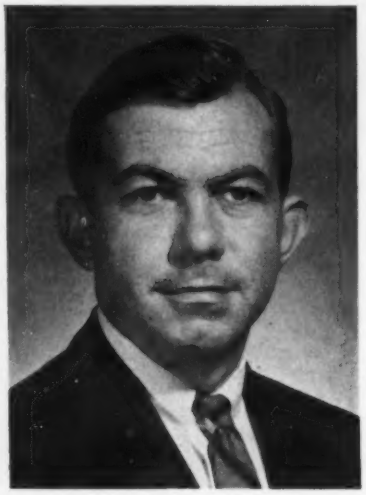
No. 5 in a series of factual presentations on the North Electric Ericofon.

Let our "Revenue Men"

GIVE YOU COMPLETE DIRECTORY SERVICE



Take a man like

Fred Dorr...

Fred is one of our "Revenue Men" in Durham, North Carolina.

29 years old, Fred is a good example of the young, energetic men who help telephone companies increase their revenue from telephone directory sales.

After serving with the U. S. Army in Korea, Fred joined the General Telephone Directory Company in 1954. He was promoted to Sales Supervisor of the Durham unit in 1957.

Fred is a man who likes to get out and do things. During his college days at the University of Kentucky, he was a member of no less than seven campus organizations—including the Student Government Association. Now married, with three children, he keeps active in community affairs as member of the American Legion, VFW and BPOE.

You'd like Fred Dorr. He's typical of the "Revenue Men" who work for General Telephone Directory Company—and for you. Men who are a credit to any community.

From A to Z, we can give you complete, quality directory service–sales, publishing and printing. Wherever you operate, our trained "Revenue Men" are nearby. They're working out of 35 strategic locations coast to coast.

Our "Revenue Men" act as telephone company representatives in their day-to-day contacts with your customers. They're not only salesmen–they are also good-will ambassadors for you, in their dealings with the public.

They're experienced hands at helping Independent Telephone Companies, both large and small. So why not let us build directory revenue and good will for you through our complete service? Write or phone if you'd like to discuss it–without obligation!

GENERAL TELEPHONE DIRECTORY COMPANY

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Des Plaines, Illinois
VAnderbilt 7-6111

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